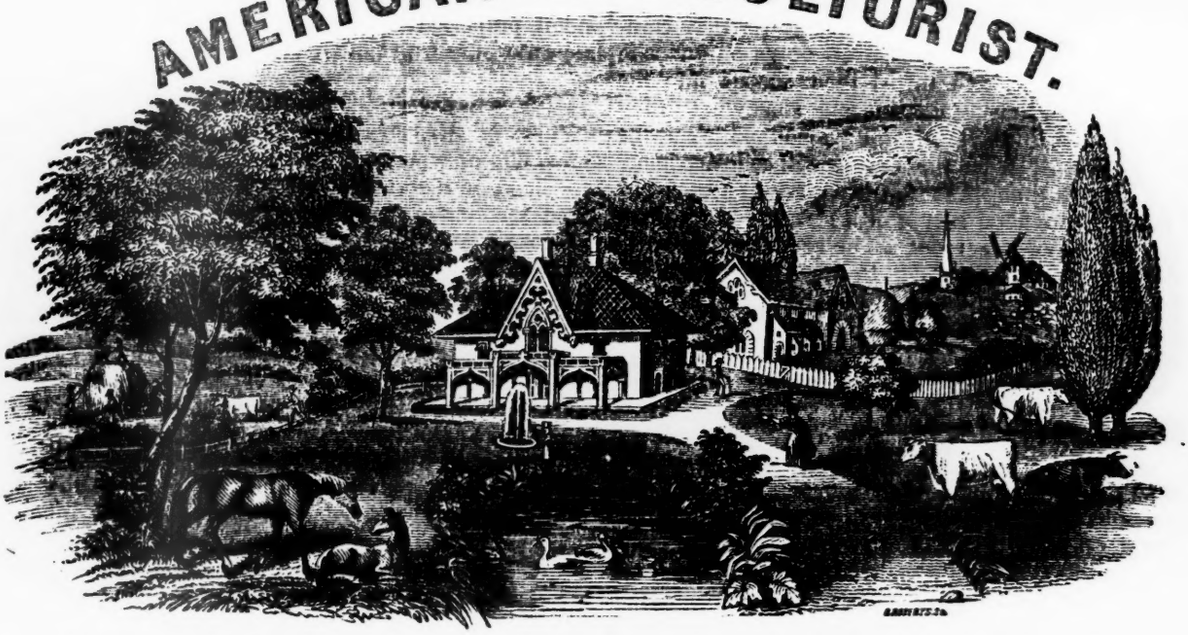
AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

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ROOT-GRAFTING.

AFTER reading this article, every farmer can easily provide himself with an orchard of the choicest fruit, and without other cost than a little of his own labor; for he has only to procure a few apple seeds and sow them, and then do his grafting in the winter evenings, when there is scarce anything else to occupy his attention.

Root-grafting is now more generally practised than tree-grafting, for the following reasons. 1. It is stronger than budding, and the scions have as straight and handsome a growth of trunk as seedlings. 2. A tree may be brought to bear from one to two years sooner by this method. 3. It can be done in the winter as well as the spring, a season when the nurserymen are least employed. 4. Three times the number of trees can be thus obtained from the same stock.

Preparing the Seed.—Take apple-pommace at the cider mill, and transport it to any place near where it is desired to plant the seeds, and spread it on the ground. Then turn it over with a rake or pitchfork, and gather the principal part of the straw from it, leaving the pommace in beds not more than 1½ to 2 feet thick. If left thicker, or much straw remains in it, the pommace heaps are liable to ferment and destroy the vitality of the seeds. Leave it in this state all winter, without covering. If the seed is to be obtained from any great distance, it must be washed clean, thoroughly dried, and then packed in a box for transportation.

Planting.—The soil should be of reasonable fertility, and free from springs or standing water; indeed, it is better to have it too dry than too wet. As soon as the frost is out of the ground, plow, harrow, and prepare the land where the apple seeds are to be planted, the same as for a good crop of corn. Now stretch a garden cord any length required, take a hoe in hand, as you walk forward, let it be drawn behind you, straight with the line, and about one inch deep in the ground. This makes a drill 6 inches wide, and deep enough for planting the seeds. Into this scatter the pommace, an inch thick, and then cover it over with the hoe, about an inch deep. The drills should be from 3 to 4 feet apart, according as one has more or less ground to spare. The latter distance is best, because it gives more room between the rows to work the plow or cultivator, to stir the earth, and keep the weeds down. If the trees come up thicker in the rows than wheat or rye usually does after sowing, they should be thinned out by pulling up whatever is necessary, and thrown away, as they will hardly repay the trouble of transplanting.

After Culture.—This may be the same as with a crop of corn. It is very important to stir the earth, and keep it loose, for the better spreading of the apple tree roots; also to check the weeds, otherwise they will choke the growth of the trees, and frequently overshadow and kill them.

Diseases and Insects.—Apple trees the first and second years, are very subject to mildew, the attacks of lice, and a small green fly, which often do them great injury, by checking their growth. For the destruction of the first, we recommend strewing lime and charcoal, mixed in equal quantities, along each side of the rows of the seedlings; and for the second, sprinkle snuff all over the leaves, or a mixture of sulphur, soot, and fish oil.

If in a good soil, and well taken care of, the trees will grow from 2 to 3 feet high the first season. Treat them the second year in the same way as the first.

Taking up and Securing the Trees.—If the trees have had a good growth the first season, they will be large enough the following winter for grafting; if not, they must remain till the second fall. To prepare them for grafting they should be taken up before the ground freezes To do this with facility,

run a plow down each side of the rows turning away the soil from them, and then pull out the trees carefully by hand; or let two men go down on opposite sides of the row, and thrust their spades into the ground near it, loosing the soil and somewhat lifting it up, while a third person follows and pulls out the trees. After this, tie the trees together in moderate sized bundles, and put them into a glass-lighted cellar, or any place where they will be secure from frost or drying up of the roots. The cellar-bottom must be of a dry soil. Here dig trenches and place the roots of the trees in these, in bundles, and cover up till wanted. Or, if the roots can be kept moist by wrapping them in moss or any other way, it will answer, though covering them with earth is the safest and best method.

Grafting.—As one has time during the winter, these bundles of trees may be taken from the trenches and grafted. From one to four roots may be cut from each tree, dependent entirely upon its growth, and still leave enough for the support of the stock taken up. This should be closely trimmed and cut off about two feet from the root, to be set out the following spring, to be budded in August. Now cut the grafts as wanted, and use ribands made in the following manner, for bandages. Take common cotton cloth and cut it crosswise into pieces six inches wide. On one side of these pieces spread grafting-wax, composed of 1 lb. beeswax, 1 lb. rosin, and 2 lbs. tallow. Then cut these pieces parallel with their width into ribands half an inch wide.

The most simple method of grafting, and as sure as any, when the roots are so small, is the splice or whip method; for a full explanation of which, and cuts to illustrate it, see our last volume, page 175. Some adopt cleft-grafting, and do not use wax or binding; but as the graft by this method is very apt to get displaced, we cannot recommend it.

After Management.—Take the trees after they are grafted, and put them into boxes of any convenient size six inches deep, and fill the same up with moist sand or light loam all around the roots, taking care to leave the top of the scion out a little above the earth. These boxes should now be taken to the green-house, and set in a shady place out of the way of the sun. Here let them remain till the graft gets well united to the root, which will take place in a week or fortnight, according to circumstances. After being united, place the boxes in the cellar, and let them remain there till ready to set out in the spring. During this time keep the earth in the boxes moist. By giving the pieces an opportunity to unite, immediately after grafting, if it comes a dry time in the spring subsequent to setting them out, they are not so liable to die, and their growth is quicker and better. As few farmers have a green-house to start the grafts in, they may place the boxes containing them in a warm room during the day, and in the cellar during the night. Those who are not too busy in the spring can do their root-grafting as soon as the frost is out of the ground, and set the trees out in rows as fast as done.

Transplanting.—Early in the spring transplant the grafted trees from the boxes into rows about 4 feet apart, and one foot apart in each row. Stir the earth occasionally, keep the weeds down between the rows, and let the trees grow till they are wanted to plant in an orchard. By this method, apples have been gathered three years after first saving the seed; and if properly attended to, one may always calculate on a little fruit the sixth or seventh year.

A TRIP ON LONG ISLAND.—No 2.

Farm of Mr. Mills.—This farm comprises 1200 acres, 500 of which are under cultivation, and 700 in woodland or "sprouts." It lies mostly on the elevated sections of Smithtown, a short distance from the Sound, and at a height of 100 to 150 feet above tide water. Like much of Long Island, it is nearly destitute of springs. To obtain water for their stock, the farmers here are often obliged to dig wells, and form rain-water ponds in the same manner as they make them in some parts of Kentucky, and other sections of the west, by scooping out the low places in the fields, and then puddling them with clay. The soil here is of a fair quality, and very free from stone, making it easy to cultivate, an advantage which is not as much appreciated by those occupying tillage land as it should be.

Rotation of crops.—Mr. Mills' course of cropping, is to break up the sward ground and put it in corn and potatoes, manuring in the hill with a compost from the hog-pen and horse manure heap, or about a gill of poudrette. He prefers the poudrette, as it starts the corn quickly and matures it sooner, thus placing it out of the reach of early frosts in the fall. These crops are followed the second year with oats, seeded down with clover, at the rate of eight quarts to the acre, and a top-dressing of from 10 to 15 bushels of bones or poudrette. After the oats are taken off, the clover is pastured. It stands well the first winter, the roots being small; but the second winter, when full grown, in the heavier loams, it gets hove out. The third course, therefore, being the year after the clover is sown, is to pasture it till the last of June, then let it grow till the last of July or fore part of August. By this time, in ordinary seasons, the clover will have attained as good a height as can well be turned under with the plow, which is then done for the wheat crop. A light coat of manure from the barn-yard follows, and is then harrowed in. After this, 80 to 100 bushels of leached ashes are sown upon an acre, and then, from 15th to 30th September, the seed wheat with four quarts of timothy, and the following spring, early in March or April, eight quarts of clover seed per acre. The fourth course is thus a good crop of wheat. The land is then mown from three to four years, when the grass gets pretty well run out, and the field is broken up again for corn and potatoes as at first, making it a seven or eight years course. Sometimes Mr. Mills pastures instead of mows; the grass will then last longer. He is a great advocate for ashes, and says if 200 bushels are put on to an acre their good effects will be felt for ten years.

By properly top-dressing the meadows and pastures, and not mowing and feeding too close, we are confident, even on the light soils of Long Island, they may be kept in good grass for an indefinite length of time, and thus save the unprofitable necessity of breaking up the sod for crops, unless particularly desired. The farmers there seemed rather incredulous at these assertions; yet, nevertheless, we can give them proofs enough that this may be easily accomplished, and even show them several tracts on the light soil of their own island that have lain in grass from 10 to

50 years, and are as good now as ever, and yield an abundance of pasture.

Stock.—In respect to stock, Mr. Mills is one of the most spirited men on Long Island. He keeps over 200 of the country Merinos for their wool, and a pretty flock each of Southdowns and Leicesters. The swine are pure Berkshire, and a very good cross with the large English white hog. The cows are Durham, derived principally from the stock of Charles Henry Hall and the late Peter Remsen. His young bull Hudson is a capital handler, and a very fine animal all over, and of the true medium size. He was bred by J. F. Sheafe, Esq., of High Cliff, Dutchess County, and took the second premium in his class at the late State Agricultural show at Poughkeepsie. Though his pastures are light, Mr. Mills finds no difficulty in keeping this stook in good condition. The truth is, if Durham cattle of *fine points* and *medium size* are chosen, they will do well even on short feed. The young horses are a good lot, and very well bred. We particularly admired a fine grey filly of the Engineer stock.

Buildings.—The barns, stables, and sheds, are ample and commodious, with proper divisions in the yards. The cider mill is the most complete we have seen. We wish we had a sketch of it for our paper. It stands upon a side hill, the second story or loft on a level with the top of the ground. On to the floor of this the apples are tipped up from the carts, and then shoved along to a hole in the floor, opening into the hopper. The fixtures for grinding are on the coffee-mill principle, we believe, and are in the ground story below. The pommace comes out along side of the press, and is easily laid up for pressing. As fast as the barrels are filled, they can be rolled out on to carts on the lower side, and taken away. Much labor is saved in handling the apples, pommace, and cider, by this arrangement. The cider made here is not for *drinking* but for *vinegar*. Mr. M. has large orchards of good varieties of fruit, the most of which is fed to his stock. The house is of handsome architecture, roomy and very convenient. An ample lawn spreads out in front, and a large well stocked garden is in the rear. Indeed, the whole concern is an excellent specimen of the enlightened, substantial, Long Island farmer.

We next visited the estate of the Hon. Selah B. Strong, at Setauket, a very rich tract of land lying on the Sound, and forming a peninsula of about 500 acres. It is stocked almost entirely with sheep. Of this we shall give a full account hereafter. His mansion, recently erected, is, to our fancy, a gem of architecture, and we are promised a plan of it for some future number of this periodical. Thence we crossed over to Mastick, on the south side of the island, to the large estate of 3,300 acres, of Col. Floyd. This is now managed by his son, Mr. John G. Floyd, who has very wisely, in our opinion, retired from politics and taken to agriculture. He has gone into this business in an enlightened manner, and tried a great variety of experiments; but as they are not yet completed, it would be premature to speak of them. This property is eligibly situated and can make any amount of sea manures. Mr. F. joins with us in one thing, and that is most heartily hating fences. His fields are large, usually from 40 to 100 acres. We next found ourselves among the Tangiers. Verily, a few of these gentlemen hold small principalities, so far as breadth of land is concerned. Some of their estates contain from 3,000 to 6,000 acres. Much of this land, however, is considered very indifferent; yet the time will arrive when it will all, doubtless, be under a high state of cultivation. But the system of managing it must be changed. It is preposterous to pay out high prices for manure from this city, at the present value of products; few will ever see their money back for it. Subsoil-plowing, clover, plaster, and sheep, would be our method of renovation. Perhaps guano manure might answer; at all events, it is worth trying on a small scale, since the best of Peruvian is now offered here so cheap. Three cwt. per acre, costing $9, if properly applied, will work wonders with a corn crop.

There are large tracts of land: 20,000 to 30,000 acres, it is said, in the towns of Hempstead and Huntington alone—which are still in common, and of precious little benefit to any one. The towns ought to sell this land, and let it come under cultivation. Left as it now is, it presents a dreary waste. If gentlemen thought it worth their while to listen to us, we could propose an excellent plan for its cultivation, and one, we are persuaded, that would amply remunerate the occupiers. We have seen much worse land than this made to pay a fair profit. As now held and occupied, it is almost valueless. Sold out, and the proceeds put into a fund for the education of the children in the towns owning this property, it would be much more beneficial to the people.

THE OX AS CUT UP FOR FRESH MEAT IN AMERICA.

In our last number, we gave a cut illustrating the ox as cut up for salting in London, and full directions for packing beef for the English market. It is a very important article, and not only of great value to those engaged in the provision trade, but to every farmer who either breeds or feeds cattle. We now give another cut nearly as important to the farmer, illustrating the manner in which an ox is cut up for fresh meat by the best butchers in America. The prices are those asked in the New York market January, 1845.

THE OX AS CUT UP FOR FRESH MEAT.—FIG. 5.

a. Neck for corning or mince meat; price 2 to 3 cents per lb.

b. c. d. Chuck rib for roasting pieces or steaks. It is sometimes left in one whole piece for large roasts for hotels or public dinners; and sometimes cut in two pieces only. If the animal be small, it may for moderate roasting cuts be divided into two only; price 7 cents per lb. for roasts, and 8 cents for steaks.

e. f. g. h. i. Middle or crop rib roasting pieces, also

called prime ribs. They are sometimes left in two or three pieces only for the same reason as the chuck rib; price 9 cents per lb.

j. Sirloin or tenderloin steaks. It is cut into thin slices for steaks as wanted. Steaks should not be cut to the required size until they are to be put on the gridiron, as they thus lose their juice; price 9 to 10 cents per lb.

k. Sirloin roasting piece; price 9 cts. per lb

l. m. Rump steaks. The steaks from *l*, are nearly (perhaps quite) as good as those of the sirloin; these pieces are also corned. If the steaks be cut from *l*, only, they are worth 7 to 8 cts.; if from *l* and *m* together, 6 cts. per lb.

n. t. Brisket for corning, and the finest corning beef in the animal, when there is a full, deep brisket. These pieces are subdivided before corning; price 5 cts. per lb.

o. Shoulder or arm for soup and mince meat; also corned; price 2 to 3 cts. per lb. It is sold ordinarily by the piece.

p. Cross piece for roasting and also cut for steaks; it makes a good corning piece. From the cross piece is cut the shoulder clod; cross piece is worth 6 cts.; shoulder clod, 5 cts. per lb.

q. Plates for corning. When corned it is cut smaller; price 5 to 6 cts. per lb.

r. Flank for corning; price 4 to 5 cts. per lb.

s. v. Thigh or round for beef *à la mode; s*, worth 5 cts., and *v*, 4 cts. per lb.

u. Navel for corning; to be cut smaller before corning; price 5 to 6 cts. per lb.

w. Shank for soup or mince meat, or corning; price 2 to 3 cts. per lb., or sold by the piece. This, as well as the shoulder or arm piece, *o*, makes poor corned beef and is more economically used for soups; and after serving that purpose may be made into mince meat or hash.

Sometimes it is desirable to corn nearly the whole of the quarter for dried beef. If so, *m*, *s*, and *v*, are left in one piece, *l* and *w* being taken off; *l* is made into steaks or corned, and *w* into soup or mince meat. The balance of the thigh, consisting of *m*, *s*, and *v*, is cut into long narrow pieces from the upper part of the thigh down; they are broad at top and run to a point below. When corned they are hung up to dry and smoke; and should be hung up by the *small* or *lower* end.

e, f, g. Are the primest roasting pieces in the carcass; next come *c, d, h, i;* then *k;* then *b.* Many persons prefer *k*, the sirloin roasting piece, to all others; but a true epicure in beef always chooses the rib cuts; and of the rib cuts, the crop ones are far the finest.

The butchers ask most for *e, f, g, h, i, j, k.* They are about equal in price; but *e, f, g*, are more valuable for roasts; and *h*, for steaks. Prices vary according to the goodness or badness of the animal; as he may be good in his chine and crops, and bad in his loins and rumps; or the reverse; or equal in both; also according to the knowledge of the butcher founded on the fancy of his customers. The highest price is always asked for sirloin steaks when cut by the butcher. Next come *b, c, d*, chuck rib roasting pieces and steaks, and *l*, the rump steaks; then *m*, lower part of rump, *p*, cross piece, *q*, plate, and *v*, navel; *r*, flank; *s*, round; *n, t*, brisket; *r*, lower round or thigh; *a*, neck, *o*, shoulder, and *w*, leg.

We would respectfully suggest to all our readers to follow the above directions in cutting up their beef. It is the most economical, as proved by long experience, and will avoid *all waste.* It separates all the pieces properly, so that the good and indifferent are not joined. If a prime part be left coupled with an inferior one, and roasted, the prime only will be eaten, and much of the inferior wasted or used in some other form, as for hash or mince meat. There are parts enough for those purposes, that ought not to be wasted and should not be corned. The roasting cuts and the steaks require the juiciest meat, with interspersed fat, making what is called marbling or sparkling cutting, and the fat should not be in separate masses nor in great abundance. The prime parts are all juicy. For corning, beef should be fat; and the proper corning parts have fat in large separate masses. If the proper corning piece be roasted fresh, the lean gets soaked with melted tallow, and the roast is worthless. When boiled, this does not take place. Judicious cutting is therefore of great importance.

Sheep and swine are cut up nearly in the same manner as the ox, and have nearly the same relative value of the different parts.

FENCES.

We cannot do without some fencing in America; but to be *forced* to build *innumerable* lines of it in every direction, is a positive curse to the country, and a plague upon its morality and industry. It would be hardly possible for law or custom, in a free community, to invent and put in practice anything more burdensome, unjust, and tyrannical upon the agricultural class, than the present system of fencing. This may seem to our readers very strong language. It is so, and we mean it as such; nevertheless, it is bitterly true, every word of it, as we shall endeavor to show. It is a long conviction of its truth, and a knowledge of the deep hold that the apparent necessity of fencing their land, has upon the habits and minds of the people, which compel us to express ourselves so decidedly against an odious and tyrannical custom, that has been forced without proper reflection, upon the cultivated portions of North America ever since its settlement.

On the continent of Europe fences are scarcely known; neither are they found in many parts of England, Scotland, or Ireland; and where they now exist in these countries the people are fast lessening their number, and we fully believe that half a century hence such a thing will scarcely be in existence.

The following are our decided objections to fences:

1. They are the occasion of more angry words and brutal personal conflicts, sometimes ending with the death of one or both of the parties to it, law suits, and lasting ill-feelings among neighbors, than all other causes put together.

2. They cost immense sums of money.

3. They take up at least 2 to 3 acres out of every hundred of the land.

4. They harbor large numbers of vermin, and are a complete nursery for bushes and every noxious weed that grows.

5. They are much in the way of plowing, harrowing, and otherwise working the land; and unless a considerable number of gates are erected along their lines, they make it inconvenient getting to the fields, and by the circuits which have to be taken, greatly

increase the distances in carting out manure, bringing home the crops, and driving the stock to and fro.

6. They have a sensible effect in delaying the warmth of spring, by occasioning snow-drifts and water puddles. Land, for a strip of several feet wide, on the north side of the fences, does not become dry and warm and fit for working so soon as in the open fields, by at least 3 to 7 days. This is frequently highly vexatious to the farmer, and positively injurious in causing delay in his plowing and planting.

7. They totally mar the beauty of the landscape, and make the fields look as if they were all *imprisoned*. Strangers coming among us from an unfenced country, unquestionably at first sight think us and our cattle awfully vicious to require such ugly hedging in and around.

All the above objections to fences must strike the reader as so plain and forcible, that they need but one elucidation, and that is as to their cost; and for a calculation of this we will take New York as an average example of one twentieth part of the Union.

This State is supposed to contain a surface of 30,000,000 acres. Deduct one half for unenclosed lands and water, and it leaves 15,000,000. We are of opinion that the average size of fields here is about 15 acres; but we will suppose, for fear of making too large a calculation, that they average 20 acres. To surround one of these, allowing a trifle for inequalities of surface, it would require 230 rods of fence. On account of numerous roads and lanes, all of this does not answer for division fences; instead then, of throwing half of it off for this purpose, we will suppose 110 rods enough, and call the remainder (120 rods) sufficient on the average for each 20 acre field. Dividing 15,000,000 acres by 20, they make 750,000 fields. These multiplied by 120 rods, the length of fence requisite to enclose each field, make 90,000,000 rods. Farm fences cost in this State, from 40 cents to 150 per rod. We will suppose, on an average, that the cost is 75 cents per rod, this would amount to the enormous sum of $67,500,000 for fencing New York alone. Now, allowing this to be one twentieth the cost of all the fences in the United States, the result would be $1,350,000,000! These enclosures, including stone and wood, do not last, on an average, over 25 years; the cost, then, is $54,000,000 per annum, which, with $81,000,000 of interest at 6 per cent. on the first cost, amounts to $135,000,000 annually expended in the republic for fences! It is absurd to suppose that so much fencing is necessary, and we now respectfully ask whether, in the outset of this article, we too strongly reprobated the law and custom compelling the farmers of this country to submit to so grinding and odious a tax upon their industry.

Chinese Silk Cotton.—We have received from Mrs. James Huling, of Holly Springs, Miss., a beautiful specimen of this cotton. It is as white as the driven snow, as soft as down, and nearly as fine as silk. What beautiful comforters it would make! We respectfully solicit an article on this subject to enrich our Ladies Department. And by the way, the Southern ladies will please consider themselves especially invited to assist in this matter. There are hundreds of things in their domestic economy, which, though very familiar to them, we would gladly hear about, and they would greatly interest us northerners.

Black Sea Wheat.—We have received the samples of this wheat from Mr. Samuel Evarts of Cornwall, Vermont, spoken of in his communication last month. The berry is of good size, clear and plump. He says of it, "this wheat is successfully cultivated in Addison county, and in some other parts of the State. It yields from twenty to thirty bushels per acre, and has thus far resisted the attacks of the fly and rust or mildew. It has a very strong stalk, and is consequently not as liable to lodge as other kinds of wheat that have been tried here. The berry is very hard, and when ground in the natural state will not make as good flour as other kinds of spring wheat. The method practised here is to take a flour barrel and put into it a layer of wheat, then take a broom and sprinkle it with water, add another layer of wheat, sprinkle that, and so on till the same is filled. Let it stand till the next day and then have it ground. When treated in this way it will produce more and better flour than any kind that has ever been raised in this section of the country."

The other sample sent we handed over to the New York Farmers' Club, with Mr. E.'s account of it. We understand that it is a spring wheat, and we presume it can be had for $1 per bushel, by proper application. Mr. E. being the Postmaster at Cornwall, can be addressed free of postage.

Smoking Hams.—Having given in our late volumes several excellent recipes for curing hams, we will now say, that unless properly smoked, these will be of little value. To do this the smoke-house must be well ventilated at the top, the hams hung at least ten feet above the fire (twenty to forty would be still better), and the smoke given out in moderate quantity, and come from corn cobs or hickory wood. It is important that the hams be kept cool and dry through the whole operation. Proper ventilation of the smoke-house ensures this. If they be kept moist by improper ventilation, or are placed so near the fire as to become warm, it greatly injures their flavor.

Mutton Sheep.—Mr. Clift, of Putnam county, brought eight of his Leicester wethers to this market last month. They were extremely fat, and were readily taken by the butchers for prize mutton. They paid Mr. C. $15 each, for two of the lot, and $12 per head for the balance—making $102 for the eight sheep.

A Fat Calf.—Mr. C. also brought down at the same time a heifer calf five months old, of the Durham breed, which he sold to a butcher for $30. This calf had run with the dam since its birth, and took all her milk. In addition to this, it had eaten some grass and hay, and ten bushels of meal, worth $3.75. Mr. C. informs us that the price he obtained for the heifer, left him a larger profit for the milk, grass, and meal it consumed, than he could otherwise have realized from them.

New York Farmer's Club.—At the meetings the past month, various fruits, vegetables, and seeds were exhibited, and their merits discussed. The establishment of an Agricultural College in the vicinity of New York, was the principal topic of discussion, and a petition was got up and signed, to be presented to the Legislature, asking $50,000 in aid thereof.

SHEEP HUSBANDRY IN SPAIN—No. 2.

The fine-wooled flocks of Spain, in the language of that country, are called "Trashumantes," or travelling sheep, in contradistinction to the "Estantes," or those which are stationary. The former, it will be recollected, migrate every spring from the warm plains and valleys of the south, to the cool, mountainous regions of the north, where they pass the summer, and return again in autumn to pass the winter below. It is obvious that migrations of so frequent occurrence, and to so great an extent, would necessarily require some fixed regulations. Hence a great number of ordinances, penal laws, privileges and immunities were enacted or set forth in different reigns, for the preservation and special government of these sheep; and hence the origin of the ruinous privileges of the "Mesta." This was an association of proprietors of large flocks, consisting of rich religious communities, grandees of Spain, and opulent individuals with hereditary rights, who fed their sheep at public expense, during every season of the year, which eventually gave rise to a custom first established by necessity. The mountains of Saria and Segovia, condemned to sterility by the climate, soil, and the steepness of their sides, were formerly the asylum of some neighboring flocks. At the approach of winter the place was no longer tenable. The sheep sought, in the neighboring plains, more temperate air. Their masters soon changed this permission into a right, and united themselves into an association, which in time became augmented by the addition of others, who, having obtained flocks, were desirous of enjoying the same privileges. The theatre was extended in proportion as the actors became more numerous; and, by degrees, the periodical excursions of the flocks were extended to the plains of Estremadura, where the climate was more temperate and pasturage plenty.*

The Mesta requires the parts of the country where the sheep are pastured to be set off in divisions, separated from each other only by landmarks—fences, or other kinds of enclosure, being deemed unnecessary, as the flocks are constantly attended by shepherds and dogs. Each of these divisions is called a "Dehesa," and must be of a size capable of maintaining about one thousand sheep in the grazing stations of the north, and a greater number in those of the south where the lambs are yeaned and reared. Every proprietor must possess as many dehesas in each province as will maintain his flock, which, in the aggregate, is called a "Cavaña," and is divided into as many subdivisions or tribes, as there are thousands of sheep contained in it. Each cavaña is governed by an officer called "Mayoral," or chief-shepherd. For each subdivision of a thousand sheep, there is allowed five under-shepherds and five dogs. The chief shepherd is required to be the owner of four or five hundred sheep, must be strong, active, vigilant, intelligent, and well skilled in everything that relates to his flock. He has absolute control over fifty shepherds and as many dogs, whom he chooses, chastises, or discharges at will. Some of the inferior shepherds assume the title of "Rabadan" or "Zagal," whose duty it is to exercise a general superintendance over his tribe under the direction of the Mayoral—also to prescribe and administer medicines to the sick and maimed. At the period of travelling, and when the ewes are giving birth to their young, two or more extra hands are allowed to every tribe; and in time of shearing, one hundred and twenty-five shearers are required to a flock of ten thousand sheep.

Of the propriety of law and order in conducting these flocks, there can be no doubt; but great exception is made to several enactments in force, and a continued struggle has long existed between the company of the Mesta, on one part, and the lovers of public good, on the other. No land that has once been occupied for grazing, can be tilled before it is offered to the Mesta at a certain rate. Long, green roads, leading from one district to another, at least two hundred and fifty feet wide, are required to be kept open, as well as extensive resting-places, where the sheep are fed and sheared. So rigid is the law on this point, that, during the periods of migration, no person, not even a foot-passenger, is allowed to travel on these roads, unless he belongs to a flock. These passages must unavoidably cross many cultivated spots, such as corn-fields, vineyards, olive-orchards, and pasture-lands common to towns, the evils and inconveniences of which are obvious and need no comment. All questions and difficulties between the shepherds and the occupants of the lands through which the roads are suffered to pass, are decided by special courts, that perform a kind of circuit, and sit at stated periods to hear and decide.

The salary of the chief-shepherd does not exceed two hundred dollars a year and a horse; that of the first under-shepherd of a tribe, ten dollars a year; the second, seven dollars; the third, five; the fourth, three; and the fifth, a boy, two dollars a year. The ration of each is two pounds of bread a day, with the privilege of keeping a few goats in the flock for their milk. They are also entitled to the skins and carcasses of the culled sheep and lambs, and each receives from the chief-shepherd, a "regalito" of three-fourths of a dollar in April and in October; and these are all the sweets that these poor wretches enjoy, with the exception of about a month in a year, which each takes in his turn, to visit his family or friends. They are exposed the rest of the time to all the vicissitudes of the weather, and at night have to lie in miserable huts formed of stakes, brambles, or branches of trees, and often sleep, as they term it, *de abaxo las estrellas*, under the stars.

The dogs are generally black and white, of the size of a wolf, with a large head, thick neck, and are somewhat allied to the mastiff breed. They are allowed two pounds of bread each a day, and as much milk and flesh as can conveniently be spared. They are so fierce and strong that no wolf can resist their attacks, and to render them doubly secure, their necks are often fortified with heavy collars armed with sharpened spikes. The bear, however, is a more powerful enemy, and if he can reach a tree he is comparatively safe. It is said, he raises himself on his hind legs with his back to the tree, and sets the dogs at defiance. In the night-time, the shepherds sometimes keep off the bears by whirling fire-brands in the air, but they generally rely on the vigilance of the dogs, which rarely bark unless an enemy is at hand. The dogs are also taught to guard the sheep on the road, and to prevent the mingling of different tribes. Should a sick or wearied sheep lag behind on the

* Bourgoanne, Travels in Spain, Vol. I., p. 39.

way, unobserved by the shepherds, it is the duty of a dog to protect it, until some one returns to afford relief.*

For a detailed account of the management of sheep in Spain, I am principally indebted to a communication addressed, about eighty years ago, to Mr. Peter Collinson, F. R. S., which was obtained directly from the mouth of a "good old friar," who, it is stated, had a consummate knowledge of all the mechanical, minute circumstances, and economy of a flock. It does not differ essentially from that given by the shepherds who accompanied the Merinos of George III., from Spain, in 1791 and 1809, and corresponds nearly with the result of my inquiries and observations when travelling in that country in 1833. He said that he was the son of a shepherd, and had followed fifteen long years the tribe of sheep his father led; that at the age of twenty-five he begged an old primer, could read at thirty, and at thirty-six, had learned Latin enough to read mass and the breviary; that he was ordained by the Bishop of Albarazzin and entered into the order of San Francisco, but had never meddled in their affairs for twenty-four years, only to say mass, confess, instruct, and to overlook about five hundred wethers which grazed on the neighboring plains for the use of the convent. He said that he had read the Bible, the Lives of the Saints, and the Lives of the Popes, with no other view in the world than to find out all that was said about shepherds. He said that good Abel was the first shepherd; that all the patriarchs were shepherds; that the meek shepherd Moses was chosen to deliver the people of God out of bondage; that Saul, in seeking his father's flocks, found a kingdom; that David went out from his flocks to slay the Philistine giant; that 14,000 sheep was the chief reward Job received for his invincible patience; that Isidro, the protecting saint of Madrid, was not, as commonly believed, a husbandman, like wicked Cain, but that he really was a keeper of sheep; that the great Pope Sextus Quintus was verily and truly a shepherd, and not a swine-herd; that for his own part he had forsaken his sheep to become a shepherd of men.

The first thing the shepherd does when his flock returns from the south to their summer downs or pastures, is to give them as much salt as they will eat. Every owner allows to each tribe of a thousand sheep, twenty-five quintals of salt (2,500 lbs.), which they consume in about five months. They eat none on their journeys, nor are they allowed any in winter, for it is a prevailing opinion that it produces abortion when given to ewes forward with young. This has ever been the custom, and is thought to be the true reason why the kings of Spain could never raise the price of salt to the height it has maintained in most parts of France; for it would tempt the shepherds to stint the sheep, which, it is believed would weaken their constitutions and deteriorate their wool. The shepherd places fifty or sixty flat stones, at the distance of about five paces apart, strews salt upon each, leads the sheep slowly among them, and every one is allowed to eat of it at pleasure. But when they are feeding on lime-stone land, whether it be on the grass of the downs, or on the little plants of the corn-fields after harvest-home, they eat no salt; and if they meet a spot of a mixed formation, they are said to partake of it in proportion as the soil is mingled with clay. The shepherd being aware that his sheep will suffer, if deprived of salt, leads them to a clayey soil, and in a quarter of an hour's feeding, they march to the stones and devour whatever they need.

One of the shepherd's chief cares is not to suffer his sheep to imbibe in the morning the frozen dew or melted frost, and never to approach a pond or stream after a shower of hail. For, if they should eat the dewy grass, or drink the melted hail, the whole tribe, it is believed, would become depressed in spirits, lose their appetites, pine away, and die, as often has happened. Hail water is also so pernicious to man, in that climate, that the people have learned by experience not to drink from a rivulet or stream until some time after a violent storm of hail.

On the last of July, six or seven rams are permitted to run with every hundred ewes, and when the shepherd judges they are properly served, he collects the former into a separate tribe, to feed by themselves. There is also another tribe of rams, that feed apart, and never serve the ewes at all, but are merely kept for the butchery or for their wool. Although the wool and flesh of wethers are finer and more delicate than those of rams, the fleeces of the latter weigh more, and the animals are longer-lived. The longevity of the sheep also depends upon the perfection of their teeth; for when they fail they cannot bite the grass, and are condemned to the knife. The teeth of the ewes, from their tender constitution and the fatigues of breeding, usually begin to fail at the age of five years—the wethers at six; and the robust rams not until they are nearly eight years of age.

Towards the close of September, the shepherd performs the operation of smearing the sheep with a heavy, irony earth, common in Spain. It is first mixed with water, and then daubed on their backs, from the neck to the rump. Some say it mingles with the oil of the wool, and thus becomes a varnish impenetrable to the cold and rain; others, that its weight keeps the wool down, and prevents it from growing long and coarse; and a third class, that it acts as an absorbent, and receives a part of the perspiration, which would otherwise foul the wool and render it rough. Be this as it may, it is a custom of long standing, and probably is useful both to the fleece and to the animal which carries it, and answers the purpose of destroying vermin.

At the latter end of September the sheep commence their journeys towards the lower plains, their itineraries being marked out by immemorial custom, and are as well regulated as the march of troops. Each tribe is usually led by six tame wethers, called "Mansos," which are obedient to the voices of the shepherds, who frequently give them small pieces of bread, to encourage them along. The sheep feed freely in all the wilds and commons through which they pass, and often the poor creatures travel fifteen or twenty miles a day, through the crowded lanes, to get into the open wilds, where the shepherd walks slow, to let them feed at ease and rest; but they never stop, have no day of repose, and march two or three leagues a day,

* An interesting article on the Mexican shepherd-dog, which is descended from the Spanish, will be found in volume III, of the American Agriculturist, p. 241, to which the reader is referred, should he wish to know more of the duties and habits of these wonderful animals.

ever following the shepherd, always feeding or seeking with their heads toward the ground, till they arrive at their journey's end. The chief shepherd is cautious to see that each tribe is conducted to the same district in which it fed the winter before, and where the sheep were yeaned; for it is thought to prevent a variation in the wool, though, indeed, this requires but little care, as it is a notorious truth that the sheep would go to that very spot of their own accord, although the distance is sometimes full one hundred and fifty leagues, which cannot be travelled in much less than forty days. D'Jay Browne.

New York, January 10, 1845.

THE LOCUST TREE.

In answer to a Subscriber, page 345 of your last volume, inquiring respecting the spread of the locust, I will state that Judge Beatty, of Kentucky, has written a very interesting article on the cultivation of this beautiful shade and timber tree, which appears in a volume lately published by him on Agriculture. I shall not quote from it, but merely state what he told me a few weeks since, when visiting his plantation, in answer to the same question which I asked myself. I found he had locust groves at various points, in every direction, all over his plantation, of one or more acres each. These groves are surrounded by a strong rail fence, to keep the cattle from them; and although the locust is the natural growth of the farm, not a single shoot or tree appears outside the fence. He says stock will utterly destroy the suckers or shoots, whenever they can get at them. I think, however, it would be inexpedient to plant them near a garden or other enclosure, where cattle or sheep are not allowed to range, unless it be such as is thoroughly cultivated by deep plowing or spading every year, in which case they would be entirely eradicated and destroyed as they made their appearance. The locust is a most valuable timber, as well as beautiful shade tree; and it has always been a matter of surprise to me why it has not been more generally cultivated. I knew a tree standing within 20 miles of New York city, a few years since, which was sold for $50, in case it proved sound on being cut. It was intended for ships' trunnels. It makes durable posts for open board fence, as well as bottom rails for a worm fence; also stakes for the same purpose, which are said to last *for ever*, although I have not tried them quite so long. A Traveller.

What are the best Grasses for Dairy Stock on Clay Lands?—I am clearing off 100 acres of clay land, and wish information as to the best grass seeds to be sown upon it, for permanent pasture for dairy cows. The soil, of course, is virgin mould, of good quality, and is "natural," as they say, to white clover, and blue, goose, spear, or June grass; for such are the four local names of *poa pratensis*. Much of the land is nearly level, and difficult of drainage, being filled with numerous ponds of surface water, the bottoms of which are rich in vegetable matter. This must be first drained off, or I shall have no profitable vegetation on it. Other portions are a stiff clay with little vegetable mould intermixed. The land is covered with stumps and roots. What grasses shall I sow, single or how mixed? The best season for sowing, and the best manner of getting them well in?

The art of procuring rich pasturage for cattle is, in this country, little understood or practiscd; yet it is an item of vast consequence, as many fields might be made to produce twice, and even thrice the amount of food now obtained from them. An early answer will oblige, Querist.

The best manner of getting in grass seed has already been frequently detailed in this periodical. Our correspondent cannot do better than to stock his land with a mixture of timothy, red top, and red clover, in equal quantities. August and September are the best months for sowing the two former, and March and April the latter. Then let the white clover and spear grass (*poa pratensis*), come and occupy the land as the cultivated grasses die out. Of the value of white clover and spear grass for dairy stock, see Mr. Bellows' letter, page 52 of this No.; and for their value for fatting sheep and other animals, see notice of Mr. Clift's farm, page 226 of last volume. The quantity of these grasses per acre is not as great as timothy, red top, and red clover, but it is thought the superior quality of them more than compensates the loss in quantity.

FEEDING STOCK.

There is no branch of agriculture in which the farmer suffers so much loss as in that of feeding his stock. Some men seem to think that all they can save from being consumed by their stock, is so much saved, provided the cattle do not die by starvation. I knew a man, half a century ago, who was proverbial for overstocking his farm, and always lost more or less cattle and sheep every winter by actual starvation, until the public would bear it no longer, and presented him to the Grand Jury, who found a bill against him for cruelty to dumb beasts. He was tried by the court, then in session, found guilty, and suffered the penalty of the law. It was said (but your readers are not bound to believe any more of it than they choose) that the wife used to go into the yard every morning, in the spring of the year, with a large pocket on each side of her, such as used to be worn in those days, the one filled with potatoes, the other with corn-cobs. As she approached an animal she would give it a push with her hand; if it *stood*, she would give it a *cob!* if it fell, she would give it a *potato!* I have been led to reflect on this subject, from having just returned from a visit to a friend; and although fatigued with my day's ride, have taken up my pen to communicate what I have seen of his management.

All will recollect the snow-storm which we had here on the 26th and 27th of October. The cattle were then in fine condition, and were fed a little hay while the snow lay upon the ground, which was only a few days. In the mean while, they have been allowed to run in every direction over the farm, which is a large one, poaching the lands that have been seeded down the past season, and gnawing the grass to the very roots of the meadow grounds, destroying a foundation for four times as much hay, which would have probably grown next year, as it would have taken to keep the cattle during the month which they have been running. Nor is this all, for the cattle have come into winter quarters actually shrivelled up—trembling with the cold, and will not recover from the check given to their growth until they are

turned out to fresh pasture next season. The calves, of which he had a fine lot, have suffered the most, and are many of them spring-poor, as the no-book farmers say; but there ought to be no such application of the term—cattle ought to come out in the spring in as good condition as they are in the fall, and will, if stabled early, and fed with as much good hay as they will eat. They ought, however, to be well curried once a day, have salt often, and as much water as they will drink; and never be suffered to put feet upon pasture in the spring until there is a full bite of feed, and the ground is sufficiently hard to bear the animals without poaching.

Farmers, if you cannot afford to keep your stock in this way, either keep none, or remove to a climate where they will require less attention.

VALLEY OF THE GREEN MOUNTAINS.

December 1, 1844.

AGRICULTURE IN VENEZUELA.

WE have quite a number of subscribers to our periodical in the different States of South America, and occasionally get interesting letters from gentlemen, residents there, which we would like to publish. Knowing the great interest that many of our readers on this side of the equator take in the agriculture of South America, we give a few extracts from a letter recently received from Caracas, in the republic of Venezuela. Spanish and French gentlemen, in addressing us, need not be at the trouble of translations, as we are familiar with both of these languages.

"Agriculture in this country, as yet, has not availed itself of modern improvements, either in implements or husbandry. There is, however, a disposition to introduce improved stock, and improved agricultural implements. Agriculture and the breeding of stock are, in these tropical climates, distinct objects of occupation. A society has lately been formed in this city, entitled *La Sociedad de Criadores*—Society of Breeders.

"Cocoa is cultivated in the rich alluvial soils of the low valleys, about 60 miles to the eastward of Caracas; cane and coffee within three miles. In the cultivation of cane, we use both the plow and the harrow. We plant the tops in furrows, about five feet apart. After plowing and harrowing the ground well, we commence making the furrow by taking one bout with the plow as straight as possible. It is then spaded out neatly, leaving it about 16 inches wide and 10 inches deep. The cane tops are then laid in two rows, one on each side of the furrow the whole length, and then slightly covered with mould from the banks. Thus there remains a space between each row or furrow, of nearly four or five feet, according to the fertility of the soil. Before the cane covers the ground, so as to prevent the growth of weeds, it receives from four to six clearings with the hand-hoe, in the course of which the young plants receive a slight supply of fresh mould. Now, sir, my object is to inquire of you, if you have any implement used in North American husbandry drawn by horse-power, that would answer to do the work of hand-hoeing? Hand-weeding among the young plants would still be required. We do not fill up the furrows entirely, being obliged to leave them a little hollow for the purpose of irrigation.

"I have been much interested in Mr. R. L. Allen's article upon the utility of mules. You are probably aware that this is a great mule country, or rather was at one time. Our mules, however, are very small, compared with the stature mentioned in the paper alluded to."

The cultivator, of a proper kind, would answer well for hand-hoeing among the cane. Price of good ones varies from $7 to $10. Mules can be had here from 14 to 15¼ hands high, at $100 to $200, each. Young Durham bulls from $75 to $150. Durham cows from $150 to $300, dependent entirely upon breeding and quality. A good cow, well fed and cared for, will give from 16 to 24 quarts of milk per day. It would be well for South America to supply herself with our well-bred mules, cattle, sheep, and swine.

POLICY OF AMERICAN FARMERS.

FROM a private note, I learn, that "Policy of American Farmers, No, 3," is not acceptable for the columns of the Agriculturist, on account of its advocacy of a protective tariff. The article is a brief recapitulation of some important and striking historical facts relating to this subject, and confined exclusively to our own country, within the last 80 years. They exhibit the baneful effects of neglecting to provide for some of the first and most pressing wants of Americans, both in their individual and national capacity. They show the immense private suffering, and the danger to our very existence as a nation, from an omission to furnish within ourselves such manufactures as were necessary for consumption, or indispensable for defence.

"Policy No. 4," further illustrated this subject, by a reference to ancient and modern history, showing conclusively, that nations exclusively agricultural, have ever been ignorant and impoverished; while such as have superadded manufactures and commerce, have occupied the highest place among the enlightened, opulent, and powerful of their contemporaries. I thought American farmers might draw an invaluable lesson from these illustrations, to guide their judgment in sustaining a policy vital to their own prosperity and interests; and I thought, too, that two or three pages of a paper strictly agricultural in its character, were not too much to occupy in the briefest reference to this important topic. But as you think some of your readers may object to even the bare mention of a subject which has, to a certain extent, been (improperly) connected with political or local considerations, I submit to your better judgment; not, however, from the slightest conviction in my own mind of the validity of this objection. Truth, and a correct and just policy, should at all times be upheld; yet with a force, and to an extent strictly limited to the occasion.

To continue the "Policy of American Farmers," with this vital feature interdicted, would be like playing Hamlet with the part of Hamlet left out; or the construction of a human body, without the anatomical framework to sustain the flexible muscles and fluids which constitute it. You may, indeed, thus have an oyster or soft crab; but this shapeless, deformed, and helpless mass, it is necessary to bury in the sand, or an impenetrable shell, or it will become the prey of the first passing cormorant. R.

January 3, 1845.

Agriculture in Scotland.—No. 4.

The Potato Disease.—My attention has of late been often arrested, by accounts of the wide-spread and destructive ravages of the potato disease in the United States during the past season. I have, through the kindness of Professor Johnston, been favored with a collection of opinions on this subject, from various shrewd practical observers, and have personally attended some most interesting discussions, in several parts of Scotland, where every means of information was brought to bear upon this mysterious disease, in the hope that, upon the whole collection, some general rule for its avoidance or cure might be founded.

Cause of the Disease.—There is but one opinion as to the prevalence of the disease, but a wide difference as to the means of its cure.

1. I have found that all consider the potato plant to be in a weak and sickly condition, from a long course of cultivation and of ill-treatment. Many ascribe this condition to improper stowage during the winter. They are generally placed in large masses, in pits or cellars, and as an almost inevitable consequence, a certain degree of heating and fermentation takes place, which, it is thought, destroys the vital principle. This opinion is probably correct, as, during fermentation, a portion of their proteine (nitrogenous) compound, is decomposed, while at the same time a part of their starch is converted into water and carbonic acid. Now these potatoes are not rotten, but they will not vegetate so vigorously, and will be less healthy, than the unfermented or unheated seed.

2. They should not be allowed to sprout before planting, so that the sprouts are likely to be broken off. Experiment has proved that such potatoes grow slowly and weakly, if at all. These sprouts contain a large per centage of saline matter and nitrogen, and when they are removed the tuber is so much poorer in these important ingredients.

3. Exposure to the sun and drying wind just before planting, has been spoken of as a great evil.

4. The important fact that these failures have most frequently taken place on long cultivated lands, where some of the necessary substances may have become exhausted.

The means of Cure.—1. All seem to agree, that the first step, in most cases, is to drain the land, and either by the spade, or subsoil plow, to pulverize it deeply and thoroughly.

2. Many excellent farmers do not take the potatoes which they design for seed from the ground at all; they throw up over them a high, narrow ridge, and leave them until the time for planting arrives. Mr. Anderson, a manager of large estates in Ireland, takes them up, and places them in shallow, long pits, not more than 2½ feet wide at the bottom, and having the earth heaped over them in as steep and high a form as possible. Before he touches them again, the field where they are to be planted is ready for their reception; they are then taken out, planted, and covered, within half an hour. By the selection of *unripe* seed, and treating it in this way, he has had excellent crops, while all around have failed.

3. Taking up the potatoes before they are ripe, is strongly recommended by many good observers. Experiments on this point have, in many instances, seemed to indicate that this procedure is the best. It is not, as might be at first supposed, contrary to scientific principles; for it has been found that those potatoes which most abound in starch, have in many instances been most liable to failure; now it is said, that starch is less abundant in the *unripe* potato. We know also, that, as a general rule, those potatoes are the most hardy, and the least liable to failure, which are the worst for eating; that is, which are poorest in starch. Thus, it would seem to indicate, as Professor Johnston has said, "that whatever goes to increase the per centage of starch, increases also the risk of failure in potatoes that are to be used for seed."

4. In connection with this point, is the fact, that many good farmers grow their potatoes intended for seed upon new land, or land which has long been suffered to rest. It is asserted, that potatoes grown upon such land, are remarkable for their small proportion of starch; and the few experiments that have been made, seem to favor that assertion.

5. I have found frequently, that farmers prefer for seed those potatoes which have been partially out of the ground, and have acquired a green color. They carefully select, and lay them in a separate pile. Some even dig them up, and expose them to the sun and air, until they become quite green, and entirely unfit even for the food of animals; they are then preserved in the usual way. Several of these persons say, that they have followed this method for years, with complete success. The little green protuberances that grow on the stalk, just above the ground, are said never to fail.

6. Whole potatoes are thought to grow more surely than those which are cut, but do not yield so large a crop, nor *generally*, of so good a quality.

7. We are not, however, always to ascribe the disease to the organic part of the potato. The inorganic part may be deficient. Where land has been long cultivated, some of the inorganic constituents necessary to the plant may have become exhausted; and though these together only amount to about eight-tenths of a pound in a hundred pounds of the tubers, the absence of any one of them is fatal to the healthy growth of the plant. Some very interesting experiments upon this point have been made by Mr. Fleming, of Barochan, near Paisley. Analysis has shown his land to be in some degree deficient in saline substances, especially salts of magnesia. Acting upon this, he applied top-dressings of sulphate of magnesia, nitrate of soda, &c., to his potatoes, and found the effect most remarkable. One hundred pounds an acre, or even less, of these salts, produced an increase of several tons in the crop. It was found that the potatoes raised in this way, when planted the next season, came up strong and vigorous; while the same variety which had not been top-dressed, planted close beside them, and subjected to the same treatment, was weak and yellow.

8. It has been stated, that plucking off the flowers, so as to prevent the plant from bearing seed, produces a marked effect; but this is now disputed by some good authorities.

9. Much stress has also been laid upon raising new varieties from seed, and thus commencing a new, vigorous species. This may be in some cases successful, but in many instances it has failed. Mr. Fleming says that he has made many thousand trials, and never produced a healthy variety.

You will, I think, be convinced by this sketch of

the subject, that although the question is not definitely settled, much has been done towards throwing light upon it, and the way opened for intelligent experiment. In the hope that our farmers will join in the effort to discover a remedy to this formidable disease, I will venture to suggest some of the points to which it is most desirable they should turn their attention:—1. To place the potatoes intended for seed in small heaps, where the temperature is even, and where there is no danger of heating or fermentation. 2. Not to allow them to sprout, so that the sprouts may be broken. 3. To plant as soon as possible after removal from their place of deposit. 4. To save a quantity of seed in an unripe state; also to select some of those tubers that have been exposed to the sun and air, and have become quite green. 5. Try some of the diseased seed upon new land that has not before been cultivated. 6. Try the effect of top-dressing with saline manures; for instance, nitrate of soda, and sulphate of magnesia or of soda, mixed, at the rate of 75 pounds each to the acre.

JOHN P. NORTON.

Edinburgh, Nov. 25, 1844.

FARMING IN NORTH CAROLINA.

We are located in latitude 35° 30′ north, near the range of the Blue Ridge, or great Allegany mountains, 50 miles distant, in one of the finest countries that man was ever permitted to inhabit; yet with the wretched system of cultivation heretofore practised by our inhabitants, *it has become poor.*

About five years ago I first resolved to attempt scientific farming; if it has not resulted profitably to me, it has had the effect of stimulating others to exertions and improvements which are quite perceptible to the most careless and unobserving. The impress upon the face of the neighborhood is really encouraging; and were it not for the delusion under which we labor, of a desire to raise cotton, and our slave population, we might hope for success.

Manuring and Ditching.—The application of compost manure, formed on the ground to be cultivated, by a mixture of swamp muck, stable manure, sod from the woodland, and about two bushels of lime to the acre, with attention to hill-side ditching, has enabled me to raise from 36 to 40 bushels of Indian corn on land before too poor for any crop. In another experiment the success has far exceeded the expectation of the most sanguine; this was on a flat piece of land, covered most of the year with water, and with a heavy growth of lambo [briars] where it was dry enough, with weeds, iron wood, and other noxious shrubs and plants. This was cleared up, and ditched about five feet deep; at the bottom of the ditch, the hard pan of blue or white clay was perforated with an augur, or occasionally cut through with the spade; rock [stones] were put in the bottom, and carefully covered with split timber, and then the ditches filled up. They were entirely dry when finished, but shortly after they were completed there was a fall of rain, when the ditches began to discharge a considerable quantity of water, and have ever since made good running streams. The ground has become light, loose, and friable, and has yielded about 75 bushels, or 15 barrels of corn to the acre. For the labor in cutting the ditches I have been more than remunerated in the quantity of muck (or more properly speaking, clay), furnished for compost beds, with which the poor hill sides have been manured. When dug up, this clay was extremely hard, forming the pan on which the water bed rested, and was not unlike brick when first taken from the mould. In four loads of this clay I alternately added one load of good stable manure, until the compost heap reached from 50 to 100 loads. This was done in summer, or early in the fall, and suffered to remain in the heap until spring, when it was applied to corn land. May not the fertilizing quality of this compost have arisen from the entire disintegration of the clay by the frost? And was not its capacity to collect and retain ammonia increased as the affinity was broken up?

I am a great advocate of atmospheric manure, and have come to the conclusion, that atmosphere is the matrix of all manures; and that no other manure is valuable only as it is auxiliary to the atmosphere. This may at first view appear to be a startling and dangerous doctrine; it would most certainly be so, if carried to the extent that Jethro Tull did; that is, that all other manures were to be excluded. I am in favor of giving every aid to atmosphere in our power, by all alkalies, composts, and such fixed salts as will impart to the earth the greatest possible capacity to drink in and retain the gases best suited to its support.

In the compost beds referred to, there were a few bushels of ashes put in with the swamp earth, but so mixed as not to come in contact with the stable manure—the object was for the ashes to exert their full influence on the muck. They would not have been injurious to the stable manure, for I find that in my cow-yard it is beneficial to throw a few bushels of wood ashes over the litter occasionally, to fix the salts contained in the urine, and tail manure. Thirty wagon loads of rich swamp mud, put up in heaps in the fall, with the addition of two bushels of caustic lime, is found to be valuable for the reclamation of a sandy land resting on a clay subsoil. The latter description of compost was applied to sandy land, too far from my house to add any stable manure, and with extraordinary effect, producing about the same result that the first mentioned compost did on the clay land, viz., 36 to 40 bushels of corn to the acre where the land had been worn out.

In connection with this subject, hill-side ditching must not be disregarded. It is perhaps more important to us, than in your climate. The heavy rains of summer have done great injury to the soil of the southern States, by working off the most valuable of the hills, and draining the bottom land; this is effectually guarded against by laying off the land judiciously, and ditching. It has the effect of protecting both the upland and bottom, by preventing the flow of water during hard rains on the latter, and the washing or wasting of the former.

Sir John Sinclair has, by his perseverance in the cause of agriculture, done more for his country than half the politicians and military men of his age. One great secret of his success is, his attention to draining the land well, and then protecting it by hill-side ditches, or what he calls water-furrows, carrying all the excess of water into his ditches and ponds.

In the second volume of Mr. Ruffin's valuable work on agriculture, the Farmers' Register, I find that the application of leached ashes with half its quantity of plaster of Paris, has had a fine effect when put in the corn-hill. Can you inform me

whether a mixture of carbonate of lime and leached ashes would not be equally salutary? As a manure, I should think it preferable; but, as a food for the plant, or what is properly turned alimentary manure, it may not be equal to the plaster (*a*) The slovenly practice of manuring in the hill, ought never to be resorted to by any farmer who has a regard for his estate and reputation; it seems to me too much of the miser and usurer. (*b*)

Lye, Urine, Ashes, Plaster.—Wood ashes, when protected from rain, and wet occasionally with urine from chamber vessels, is of immense value. I made an experiment on a piece of ground under some apple trees, which was covered with moss, produced no doubt by the sterility of the soil, and a redundancy of acid. Equal parts of lye from wood ashes and chamber lye were added together, diluted with water (about two gallons of water to one of this mixture), and applied by a watering pot to the soil, say six gallons to a rod square. In two or three days the moss was destroyed, and a very luxuriant crop of white clover and blue grass succeeded it. On another grass plot in my yard, an application of wood ashes not saturated with chamber lye was made; by the side of this an equal quantity of plaster of Paris was put on an equal sized plot; the piece manured with ashes was decidedly the best. This trial, and some others with lime, have depreciated plaster in my estimation; my settled conviction is, that the same sum expended in lime or ashes is more efficient than in plaster. (*c*)

Lime.—I have been purchasing lime, and hauling it about 27 miles. It has amply compensated me for the cost, say 15 cents per bushel, and the price of hauling. Being now in the decline of life, and having spent most of my time in other vocations, I feel that I must be permitted to indulge in some hobby; I find none so innocent and attractive as my new profession of agriculture. I may be led into error and extravagance in some of my experiments; but if they have the effect of promoting the cause of agriculture, I shall be compensated for my labor and expense. A. M. Burton.

Beaty's Ford, Dec. 15, 1844.

(*a*) Whether lime or plaster would be most beneficial, must depend on the nature of the soil, and the crop to be raised from it.

(*b*) Spreading the manure broad cast should be generally followed; in addition to this, it is considered good practice to manure lightly in the hill, to give the crop a start; and again on the hill around the plant, just before it commences fruiting. One must be guided by circumstances somewhat in these matters.

(*c*) We think our correspondent should make other trials before condemning plaster, as local causes may have caused its inefficiency. If sown in dry weather, its effects will not become apparent for some time; if in wet weather, almost immediately. Plaster is a part of the food of turnips, clover, sainfoin, lucerne, and some other plants. It is found that an ordinary crop of these grasses usually contains from 1½ to 2 cwt. of this salt per acre. To such crops the application of plaster must be beneficial. To other crops, such as peas, beans, wheat, oats, and barley, it is of little service; because, upon analysis, scarce a trace of plaster can be found in them. Perhaps the soil where Mr. Burton applied the plaster to the grass was exhausted of its potash; if so, it would be of no material benefit to the grass. See this explained page 225 of our last volume.

GREAT BUTTER COW.

You have, in the September number of your excellent paper, noticed an account given by me of a half-blood native and Devon cow, as published in the Massachusetts Ploughman, and ask me to inform you how she was fed during the seven days in which there was made from her milk 16 lbs. 10 oz. butter.

The pasture in which she is kept is upon the summit of one of our hills, from which you have a view of the valley of the Connecticut for 20 miles, and of the Green Mountain range for nearly 40. I do not know that the view affects the quantity or the quality of the milk; but high and warm ground produces sweet feed. As Senator Benton would say, the barn yard and pasture are "conterminous," and after an early milking in the afternoon, she is turned into the pasture to spend the night, where, during the cool of the evening and morning, she can feed without annoyance from heat or insects. This was the only peculiarity in the treatment of the animal. The grass is principally white clover and spear grass (*poa pratensis*), which never gets long. The pasture contains 8 or 10 acres, and has been long used, and was at this time supporting two cows, a mare and her foal. The cow ate nothing but what she obtained from the pasture, and I feel certain that nothing could be fed which would yield a larger quantity of milk or butter. The shorter the feed the better, if the animal can fill herself. This little cow that would not make 550 lbs. of beef, grass fed, produced this quantity of butter, while a Durham of the largest class would scarcely live. This cow, in 9 days in the last half of October, besides furnishing cream for tea and coffee for 3 persons, made 16¾ lbs. of butter—fed with three pumpkins each day, besides the fall feed. I am raising a bull from her, got by a Durham, from the stock owned by Wm. Watson, Esq. of East Windsor, Ct., and I hope at some future day to give a good account of the cross.

Wm. Bellows.

Walpole, N. H., Dec. 29, 1844.

IMPERIAL OATS.

Among the numerous varieties of oats at present cultivated in this country, the *Imperial* variety deserves particular attention, not only on account of the ease with which it is cultivated, the produce per acre, and its superior weight, but also to gratify the laudable ambition that every farmer should possess, to raise the best of everything on his farm.

Some 7 or 8 years since, a quantity of these oats was sent out from London to Mr. Alexander Smith, seedsman of this city, who has cultivated them since that time. When he first received them they weighed 42 lbs. per bushel. By cultivation in this country they have improved in weight, until they now weigh from 40 to 47 lbs., according to the soil, season, and *care in cleaning*.

Several years ago, Mr. S. sold some of the seed to a gentleman on Long Island, who supplied Mrs. P Ludlow with them. I saw, a few days since, a sample of Mrs. Ludlow's oats, which she has cultivated for 5 years, weighed at Mr. Smith's. They

weighed 47 lbs. per bushel. Mr. Smith's crop of this season, weighs 46 lbs.

Mr. A. Stevens, of Genesee county, has raised this variety of oats two years. He also had an opportunity of observing their cultivation for several successive years. He found that they yielded more per acre sown under like circumstances, than the common oat; for while the former weighed 44 lbs., the latter, well cleaned, only weighed 32 lbs. per bushel. The third year, in consequence of the dryness of the season, Mr. Stevens observes, that the crop fell off to 36 lbs., but the next season they recovered their original weight. He thinks they have now become acclimated, and that such an occurrence will not take place again; for in 1841, some of these oats were sown, no rain fell on them for six weeks, the summer was dry and warm, but yet the crop weighed 44 lbs. per bushel.

These oats, like all other grains, should be sown on good soil. If it requires manure, it had better be applied to such a crop as is improved by barn yard manure; for example, corn or potatoes, and then the oats sown the succeeding year. In cultivating them, the ground should be plowed as soon as possible in the spring, the oats sown in the plowed furrow, and then well harrowed in. If the intention be to seed the land down with grass, which has proved a good plan with me, then the oats should be sown first, the grass seed next; and after the ground is harrowed with the common harrow, it should be well brush-harrowed or rolled.

From 2 to 3 bushels of seed should be sown to the acre. More or less seed according to the quality of the soil. Rich and well-cultivated ground requiring less than a poorer soil, as the oats will tiller better. Great care should be employed in harvesting the crop, as the grain shells very easily. The crop should be cut *early* while the berry is full and soft, even before all the straw has turned yellow, else a large quantity of the grain will be lost, and what you have will be darker, lighter in weight, and more husky.

From the above it does not appear that these Imperial oats degenerate, as was remarked by General Talmadge before the Farmers' Club in this city. All those who have cultivated them, as far as I have been able to learn, consider them superior to any other variety at present raised in our country.

New York, Jan. 1845. H. A. FIELD.

CULTURE OF RICE.

GEORGIA has a front upon the sea, from the Savannah to the St. Mary's, of a little more than one hundred geographical miles. Within that space, five rivers bring down and discharge the waters of the interior into the ocean, having at their mouths each a considerable portion of alluvial lands. The fresh waters of these rivers in their descent repel the salt waters of the sea, and confine them to certain limits. It is within this disputed empire, upon this debateable ground, that our most valuable plantations are situated; for man has stepped in and said to the waters of the sea and the rivers, this land is mine; I will raise dykes upon it, and bound you out; I will dig trenches in it, and place water-gates upon them, so that if the rains fall they shall flow off; but when drought comes I will lift my water-gates, and let you in, to flow my rice and my sugar cane, my cotton and my corn, and there will be health, and healing, and fertility, in your floods.

In Georgia, there are probably thirty thousand acres of land, upon these five rivers, of this alluvial soil so situated, of which the Altamaha gives fifteen thousand. In South Carolina, from her greater extent of coast, there must be at least fifty thousand acres of the same quality. Not one half of these lands in Georgia are yet reclaimed by being embanked and drained, although there is every motive in favor of their being so; for they are, with the lands of South Carolina of the same description, as far as I know, the best rice lands in the world; because only upon these lands in these two States, do the waters, twice in twenty-four hours, rise high enough to water them; and twice in twenty-four hours, sink low enough to drain them.

The tides do not rise and fall sufficiently in the Bay of Chesapeake, to water and to drain those alluvial lands; these benefits only extend from Cape Fear river to the St. Mary's river. Florida has no river land of this description, and the Gulf of Mexico has no practicable tides, useful for this purpose, so that the lands at the mouth of the Mobile and Chattahoochee rivers, like the lands at the mouth of the Mississippi, are not reclaimable for any valuable purpose.

There is no place in the United States, nor perhaps in the world, where any culture has been so systematized as the rice culture upon these lands, in these two southern States. In China and Hindostan, where the rice crop is the great crop of the country, rice is transplanted by hand, from the seed-bed to the field. This can only be done where labor is of less value than seed or lands. The principal motive, however, for this course, I conceive, is, to save water, as they depend upon flowing their rice lands, either when their rivers rise above their banks in periodical freshets, which is but for a short portion of the year, or from tanks and reservoirs, where water is kept in reserve, to let down upon their fields once or twice in the season. They cannot therefore let this water off their rice lands, until it has given to their rice (which is an aquatic plant), all the benefit it is capable of imparting, lest they should not be able to refill their fields when they may require it. In Italy, probably from the same cause (the want of water), their rice lands are most carefully prepared; they are plowed and harrowed, when a small portion of water is let on upon them; and while the soil is in a fluid state, the rice is sown broad cast over the field, and the water is never again taken off the lands, until just before they are reaped. All weeding must be done inconveniently and unhealthfully, and is done by women wading in the water; yet some Italian fields after a crop of hemp, with this treatment, have given the greatest crops of rice ever produced within our knowledge—sixty bushels of clean, or one hundred and twenty bushels of rough rice—yet, from our having a free command of water, putting it on, and taking it off as we will, our general crop of rice, say fifty bushels in the rough, is better than the general crop of rice in Italy, India, or China. But I will now proceed to a description of our own rice culture.

To protect these alluvial lands as well from the waters of the river, when the rivers swell by abundant rains or the melting of snow upon our mountains in the spring, as from the increased rise of the

tides, with the East wind, in spring and autumn, banks or dykes are constructed along the borders of the rivers, at from ten to thirty yards from the water's edge; the distance depending upon local circumstances. These dykes should be raised four feet above the general level of the land, and it will require to do this, a ditch or trench to be dug at twenty feet from the bank within the field, ten feet wide, and four feet deep, in marsh lands where there are no trees to obstruct the labor. Ten feet in length of this dyke and trench is accomplished per diem by the laborer; but when the land is covered with wood, not more than half the quantity can be calculated upon. When the great outline of the field has been accomplished, and water-gates (called trunks or flood-gates) have been put down, so low as to draw the water from the fields and trenches when the tide subsides in the river, and to flow them when it may be necessary to the crop, and when the tide is at its full; then subdivisions are made within these outer dykes by other dykes, so as to lay the field off into convenient portions of from twenty to fifty acres, in such forms as are best adapted for taking on and letting off the waters from the fields. For myself I believed and experienced great benefit in receiving the waters of the river at one end of the field, allowing them to escape or weep off by a small water-gate at the opposite end, as this necessarily changes every portion of the water; again, small drains eighteen inches at top, and nine inches at bottom, and two feet deep, should be carried across these fields in their shortest diameter, at every hundred feet distance, or better still, at every fifty feet distance; so that when the waters are withdrawn, there is no sobbing or partial pondage, from inequality of level.

These objects being accomplished, and the soil prepared for the operation of sowing the seed, trenches are made with a hoe in new lands, and sometimes with a plow in old at fourteen inches apart, so as generally to give eighty-four of these trenches in a quarter of an acre; from two to two and a half bushels of rice are sown carefully along the drills to the acre to be covered with two inches of soil. When this operation is accomplished in one of the divisions of the field, the water-gates are opened, and the water let in, and kept on the field from five to ten days, depending upon the temperature of the weather to sprout the rice in the first place; and again, to take off all redundant matter that may float upon the surface of the water, and which will be drifted to one or other side of the field, as the winds may blow. When these five or ten days have passed away, and the rice, on examination, is found to be germinating at its bud, and the trash or drift floating upon the surface of the water is removed, the waters are withdrawn from the field. From four to ten days will show the rice, rising green along the drills; but the birds will be collecting in flocks from every quarter, to prey upon the rice, just showing itself on the surface, the grain softened, yet sound and sweet. From this cause, for myself (although many do not do this), I let the water again upon the field, and keep it there from two to four days, according to the temperature of the weather—if warm, shorter; if cold, longer; this pushes the rice forward, and shortens the time that the birds can operate injuriously upon it, and is called by rice men the point flow. Let it be understood, however, that it is almost impossible to save rice that vegetates and comes through the ground during the month of May, from a small bird of passage, called commonly the May bird (described by Bertram and other naturalists under other names), which, arriving from the south, sweeps whole fields before it. If, therefore, we are as late as May with any portion of our rice crop—which we should finish planting, if possible, in March and April—we must wait until June, when these birds wing their way to the north to seek for wheat and other small grain, and to find a softer sun. Again, when the rice has risen a few inches, the surface of the soil becomes dry about two weeks after withdrawing the water from the point flow; the grass is carefully picked from the rice drills, the intermediate space is lightly hoed, and the field is then left to dry two or three days, that life may be extinct in the grass that has either been drawn from the drills or hoed in the intermediate space. I then again flow the field. Many do not, until a second operation or hoeing has been gone through; but water costs nothing, and I like to use it when I have the power; because it gives time to carry on the same operation over the other fields. At this second flowing of the fields I would keep the water on ten days, taking care not to make it too deep, so as to drown the rice in the lower parts of the field, or to throw it down on the withdrawment of the water, which would be the case if the water was deep, or the rice run up too high. After the water is a second time withdrawn, the field is again carefully hoed, and this time deeper than at the first operation. When the fields are again clean, the water is for the third time taken upon the rice, to keep down the grass, and to give time to go through the several divisions in order; and at this flowing the water is kept on from twelve to fifteen days, and sometimes even twenty; so that the planter may be prepared to operate upon them, as he one by one successively withdraws the water. At this point the fields are finally, but carefully, picked and hoed, and these operations continued until the rice begins to joint low down; this is discovered by a horizontal stripe across the blade, or by pulling up and examining some plants of the rice. When these indications are discovered, the water is let on, and deepened upon the rice as it grows, and is kept as deep as the growth of the rice will admit, and is not again withdrawn until three or four days before you begin your harvest of each field, in succession; lest the wind or beating rain, on the withdrawment of the water, cause the rice to fall or lodge, which would diminish its quantity and injure its quality, and greatly add to the labor of harvesting.

During all these waterings, it is important to avail ourselves of every successive tide, to take water in at the river gate, and to allow it to weep through the small gate or trunk at the back of the field. Sometimes, when the water has been long upon your fields, a destructive worm makes its appearance at the roots of the rice. They can only be destroyed by a withdrawment of the water for a few days. Sometimes, when the fields have been long kept dry, a worm of another description, like the caterpillar, takes the blade. They can only be destroyed by letting the water in upon the field, whatever its condition may be, as to grass or otherwise.

It is this command of water at will that makes the value of our tide land. In the best lands in Lom-

bardy, the water is sometimes the property of one person, and the land or soil of another; for the water is often brought for many miles, above or below the surface, as the level may require; and is sold on its passage right and left to the field owner, by him who owns the stream; the quantity is measured out, and consequently more sparingly used. The Italian husbandman or farmer must therefore retain it as long as possible, until it becomes too foul for use, or is exhaled by the sun; and from this cause it is that he sows his seed in the water, and weeds his rice by hand in the water, to the great injury of the laborers employed, generally women. Yet with all these disadvantages, rice lands in Lombardy rent from five to six pounds per acre.—*Arthur Young.*

I have written more at length upon rice than might have been required for your book, only because in no country has so much rule and measure been applied to agricultural operations as in rice with us; and it only remains to add, that there is much difference of opinion upon the winter operations upon our rice lands. Many persons keep their fields dry during that period of the year, burn the stubble off, and plow them. Many object to plowing preparatory to drilling or trenching for the seed; for myself, I would and do plow with a small plough, with a single ox, in single yoke. One ox travels over these soft alluvial lands better than two, because when yoked double, one necessarily treads in the previous furrow. After plowing, it is necessary to harrow or roll the land; but to do this effectually, it should be left after the plowing, until quite dry. And here I will observe, that the roller is the only European instrument not introduced generally into our field operations; and yet I know of no instrument of more importance in agriculture, and no country where it is better adapted to the soil. In Europe, the harrow is only employed in summer fallow, to do what we depend upon the plow and hoe to do—to clean the land from grass roots, or to cover the seed after the broad cast sowing; here we employ it to break down the plow furrow, an operation much better effected by a heavy roller, which, passing over the new plowed land after it has been sufficiently exposed to the wind and frost, breaks down the clods, and reduces the field to that situation most proper for the seed. But again, if rolling the seed after sowing has been found beneficial in the cold and stiff soils of England, how much more so would it be in our climate, and with our light soils, that are more injured by the winds of our spring and by the sun of our summer, than by all the other causes that waste and destroy them? THOMAS SPALDING.

Sapelo, Nov. 26th, 1844.

SHEEP ON THE PRAIRIES.—No. 2.

Preparing Winter Quarters for Sheep.—The greatest difficulty to be encountered upon this soil is mud; you must therefore select a piece of ground that is dry and has good drainage, and then I will tell you how to build some cheap, good sheds.

Take common fence rails, and lay up two parallel lines about 10 or 20 inches apart, held together by cross ties, and about 4 1-2 feet high, and any desirable length. Fill in between the rails with old straw, trash, sods, or dirt, so as to make a wind-tight wall. About 8 feet from this fence-wall, set up crotches or forks to hold poles that will sustain rails, laid with one end upon the pole and the other on the fence-wall, which will form the back of the shed, and hereon stack the hay, which will cost from $1.00 to $1.25 per ton to place it there; and excellent feed it is for sheep. But the grand difficulty about these sheds is, that not providing hay enough, causes them to be uncovered just at that time in the spring that they are most needed.

Many are very anxious about selecting a good place on account of convenience to water, and in so doing, often lose other advantages. Now it is my opinion that a good well, or pump and trough right in the yard, is far preferable. And as with a flock of a thousand sheep, one man should be in constant attendance, he would be able to see that all had water from the pump, better then to allow them to run to the creek through mud, ice, and snow, to seek it themselves. It is generally conceded that one ton of hay will winter ten sheep. Racks that will answer a good purpose, can be made of rails laid up similar to the back wall of the shed. It is my opinion that grain given in moderate quantities, will all be paid for in the fleece.

Oats and corn will average about 15 to 20 cts. per bushel, which afford a very cheap feed. Potatoes, turnips, rutabagas, beets, and carrots, can be raised here extremely cheap. Our winters are generally dry, windy, and not much snow; but we always look for two or three in the course of the winter, real, genuine prairie snow-storms.

Feeding time commences the last of November and continues till March, and sometimes till first of April. Much feeding might be saved by providing pastures of blue grass, or timothy; and even to sow rye every summer for winter and spring feed, would be good economy, as it makes a most luxuriant growth. I would put the rams to the ewes from 20th November to 1st December.

Having now got your flock into winter quarters, I shall leave you to feed and water, promising to return before shearing time and assist to take off your fleece, provided your readers in the meantime are not disposed to fleece me, for inflicting so crude a sheepish article upon them. SOLON ROBINSON.

Lake Court House, In., Dec. 1844.

PORTRAITS OF ANIMALS.

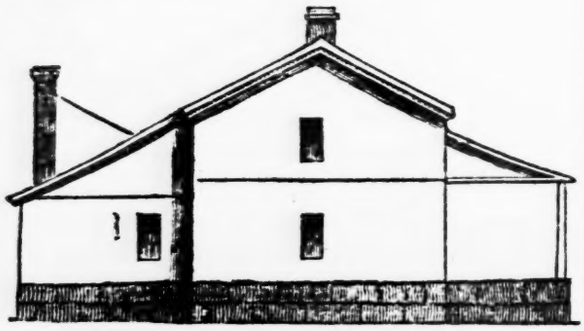
If you will permit me, I would respectfully suggest to the owners of extra fine specimens of improved farm stock, the propriety of publishing portraits of their animals. I have no doubt they would find an abundance of purchasers at a remunerating price, if they were well got up and colored from life.(*a*) For myself, I would give more for a good portrait of such an animal as Mr. Oliver's bull Marius, or Mr. Prentice's Esterville, or Nell, or a group of fine Berkshires, than all the portraits of political candidates with which the world is at present flooded. And for decorating a farmer's parlor or library, if he has one, portraits of animals would be much more desirable and appropriate. AN AMATEUR.

Middlesex Co., Mass., Dec. 1844.

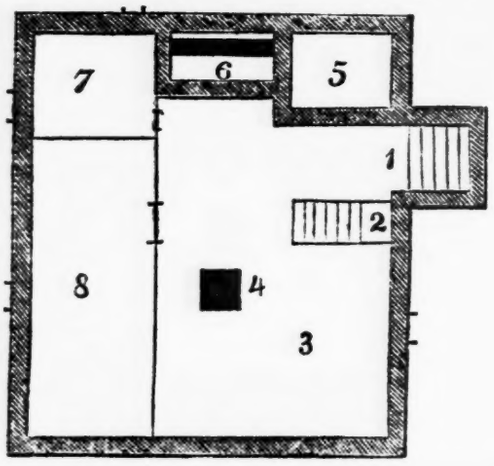
(*a*) We shall be happy to aid the owners of fine animals in carrying out the suggestions of our correspondent; and have no doubt that truthful colored engravings of such as are really good, and worthy the study of breeders, would find a profitable sale.

FARM BUILDINGS, No. 2.

I gave in your January number, pp. 22 and 23, Figs. 2 and 3, a front view of the above farm house, and a plan and description of the ground story. I now forward a gable end view of the house, and the plans of cellar and chamber.



GABLE END OF FARM HOUSE.—Fig. 6.



PLAN OF CELLAR.—Fig. 7.

Exp anation of Cellar, Fig. 7, the walls of which are 18 inches thick, and 7½ feet high, laid up in stone and mortar.

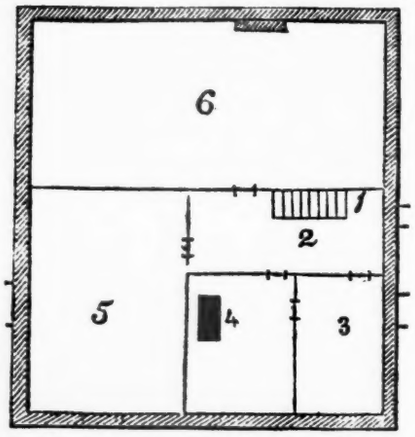
1. Outer steps, 5 feet wide, 10 inches rise, and 1 foot tread, with double shed door outside, and inner door at bottom.
2. Kitchen stairs and landing, 3 feet wide.
3. Principal root cellar, with bins, &c.
4. Chimney foundations, 5 feet square, made of stone laid in mortar.
5. Cistern, 7 feet square in the clear, made of stone walls, 18 inches thick, laid in water cement.
6. Ash-pit, and chimney foundation of stone.
7. Milk room, 14 feet by 10.
8. Apple, meat, and provision cellar, 28 feet by 14.

Explanation of Chamber Story, Fig. 8.

1. Chamber stairs, with landing at the head, and railing around the passage way.
2. Passage 19 feet by 8, with a swing window of four lights at the end.

3 and 4. Sleeping rooms, 14 feet by 10, and 14 feet by 9; a swing window of nine lights ventilating and lighting the room 4, from 3. A door window in the roof, over the piazza, would light this from the outside, and look well.

5. Large sleeping room for workmen, 22 feet by 15, with a flue in the chimney for a stove pipe.
6. Low garret room, over the kitchen, which is useful for different purposes.



PLAN OF CHAMBER STORY.—Fig. 8.

This house is partially patch-work; the main part of which being 34 by 22 feet, one and a half stories high, and 13 feet posts, I removed from some distance, and placed over the cellar. I then added a *lean-to*, with a shed roof running off from the rear eaves of the main part to a height of 9 feet posts. This addition is 16 feet wide by 34 long. The front and rear roof have a pitch of one quarter, while the lean-to roof has a pitch of one sixth, giving it an agreeable slope to the eave trough. The piazza roof reaches to within 18 inches of the eaves on the front, and has a pitch of one sixth—the roof turned or hipped at the ends. The posts of the porch are young pin-oak trees (we have no pine nor cedar near), with the scraggy limbs left, and rounded 8 or 10 inches long, to support honeysuckles or climbing roses, which should always ornament a farm house or cottage. The sills of the house stand 2½ feet above the level of the ground.

The chambers of the house, three in number, are sufficiently high for lodging, and under the kitchen roof is a low shed room for garret storage. The main windows are 24 lights (12 light sash), of 8 by 10 glass. The chamber, or gable windows, are 15 lights, composed of 9 and 6 light sash. The lower bed-room window is also of 15 lights. The buttery window is a sliding one of 9 lights, and a small 4 light sliding window is over the sink in the kitchen. There is also a small swing window of 4 lights at the head of the chamber stairs. A small chimney runs from a stone foundation in the cellar up through the main body of the house, admitting a fire-place each to the front rooms, and a stove pipe flue for the principal chamber.

In the cellar, under the kitchen sink, is a stone cistern, 7 feet square, which will hold 70 barrels rain water, filled by a conductor from the eave trough in the rear. A pump inserted into this drains the water into the sink in the kitchen and wash room; a water cock through the cistern wall also draws it into the cellar for the use of the dairy room. In the cellar, beneath the kitchen fire-place and oven, is a stone ash pit, with an iron door, and a grated passage leading into it from one corner of the fire-place. This holds 80 bushels. The cellar partitions are made of planks 2 inches thick.

The porch of the house is very wide in proportion to its size. It is thus made for convenience, and makes a pleasant place to dine or sup in warm weather.

The cost of this dwelling complete and painted, aside from the washroom and woodhouse, was about $800—including them, $1,000. The whole group of buildings cost about $3,000.

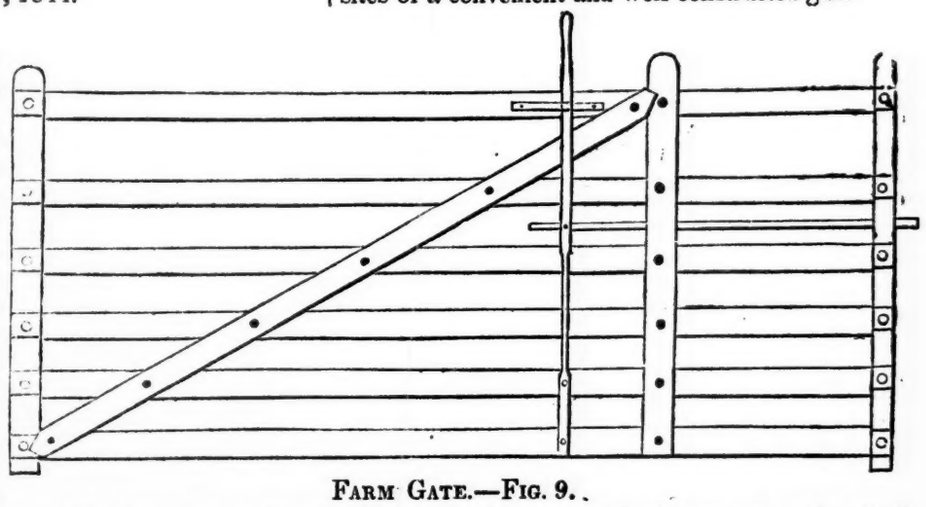
I shall give plans of other farm buildings hereafter, in which I shall study to combine comfort, convenience, and elegance in their arrangement.

L. F. Allen.

Black Rock, December, 1844.

FARM GATES.

There is no part of a farm enclosure which is more important than a good gate. In the hope of contributing something to this matter, I venture to submit the annexed plan as being the most perfect of many varieties that I have used, and many more that I have examined. I met it some years ago in Maryland, and I think nothing can excel it in all the requisites of a convenient and well constructed gate



Farm Gate.—Fig. 9.

Description. — This gate is 11 or 11½ feet wide, and 4½ feet high. There are two pieces of scantling, one for the back, 3 by 4, and the other for the front, 3 by 3. The bars or slats, six in number, are 4 inches wide and 1 inch thick, after being dressed. The braces and the uprights are of the same size and materials as the bars; two pieces of each, to be firmly secured by rivets, or large wrought nails to clinch. The bars are let into the scantlings by mortice and tenon, there being a shoulder of half an inch for each tenon on the lower side of the bar, except for the one at bottom; in this it is placed at the top to prevent the bar from being split by any obstruction underneath. The scantling and bars are secured to each other by ¾ inch pins. The spaces between the bars, counting from the bottom, are 3½, 4½, 5½, 7½, and 9 inches. The spring, for which, as indeed for the whole gate, nothing can be better than yellow pine, is 2 inches square at the lower end—the elastic part is 1½ by ¾ of an inch—and the upper end 1½ by 1. It is fastened to the two lower bars by half inch pins with shoulders, draw-bored and held tight by nails. The latch is 1½ by 1 inch, working through the space between the uprights, and a mortice in the front scantling; and the catch is fixed in such a manner that the latch shall play horizontally.

However well constructed the gate, the work is but half done unless it is well swung; and there is a rule for doing this, by following which no one can go amiss. The most suitable and convenient hinges are hooks and eyes, made of ¾ inch bar iron. The part containing the eye or hole, is simply a screw bolt, about 5½ inches long for the top pair, and 1¼ inches longer for the bottom pair—with the addition also to the last, of a shoulder in the form of a screw tap, closely attached to the bolt at the distance of 2¾ inches from the centre of the eye. The object of this shoulder is to resist the weight of the gate and prevent it from settling down; and the greater length from the shoulder to the eye is to give the gate a tendency, when opened, to close by its own gravity. The hook of the upper pair of hinges is to pass through the post, and be fastened by an iron key: that for the lower pair needs only to be driven into the post a sufficient depth. The posts should be from 10 to 12 inches square, dressed true the whole length, and let into the ground fully 5 or 5½ feet; and should be 6 inches higher than the frame of the gate. The first post to be set is that to which the gate is to be attached, and it should stand *exactly* perpendicular. After being set (and the earth thoroughly rammed), place the gate against the post, so that the inner side of the post and the inner side of the gate-frame shall correspond. Bore the hole for the hook of the upper hinge, which will be about 5 inches from the inner side of the post; insert the hook and hang the gate upon it. The point of insertion for the lower hook will be 1¼ inches farther from the inner edge of the post than the upper one, to allow for the greater length of the bolt of the bottom pair of hinges; and the lower hook should not be driven so near to the post as the upper one by ¾ of an inch. The other post is then to be set so that the gate will close evenly against it. When the gate is shut, the bars will be horizontal, but there will be a slight inclination of the gate when viewed in a line with the posts. As it is opened, it is gradually thrown out of plumb, in order to afford the gate a sufficient gravity to close of itself. If in time it should get somewhat out of swing, it may be put to rights again in a few moments by means of the screws.

A neat and simple cap for the posts is made out of three pieces of inch plank. The bottom piece may be an inch larger than the post, each way, with the edges rounded; the middle piece the size of the post, with square edges, and the top piece the size of the bottom, with the edges also rounded. The cap contributes very much to the durability of the post.

To fix a gate completely is not a light job; but it is well worth the trouble, for it will last and look well for 15 or 20 years. Indeed, I know of one which the owner assured me had been in constant use for 40 years.

The latch should always be kept well greased. An auger hole in the post to hold a piece of tallow, will afford the means of greasing it whenever it is necessary.

T. S. P.

Virginia, Dec. 12, 1844.

SHEEP HUSBANDRY.

Lands best adapted to the Growing of Sheep.—Somewhat high or rolling lands, producing a short, sweet grass, should be chosen, upon which to pasture sheep. Avoid marshy or wet lands. The grass thereon is not as sweet and natural for sheep, as on drier land. They are also apt to become diseased in their feet on wet lands, and do not thrive as well, and flies that trouble them most, seem more numerous about such grounds. Level grounds or plains, if sandy or gravelly, are generally good sheep pastures. Fields kept for sheep, should be allowed occasionally to recruit, by being vacated for one to two weeks, every two months or so. Sheep will do far better by a change of pasture, even though the time be short. Good running water is essential in each field, though sheep can do better in pastures without water than other stock.

Fences and Pass-ways.—Almost any kind of enclosure may be used except stone. If a farm be stony, and its proprietor desires to put them into fence, a very good kind may be made for sheep, if laid up 3 feet high, and then capped with posts and boards nailed thereon, or a course of rails laid on top, then staked firmly, and another course of rails laid upon the stakes. Gates to go in and out of fields for sheep, should always be used instead of bars. The common method of letting down some 4 or 6 bars, only gives a very narrow passage, and exposes the legs of the sheep to be broken, and the weak ones and lambs to fall and be run over. If, however, bars must be used, always take out two or three of the lower ones entirely, to let the sheep pass.

Number to be kept together.—About 100, or at most 200 sheep are as many as should be allowed to run together either in summer or winter.

Time to commence Foddering—Quantity of Hay necessary—Comfortable protection, &c.—Sheep, in the latitude of this State, should in ordinary seasons be taken from pasture and put upon hay as early as the 15th to the 25th of November. About 10 to 12 tons of hay, without grain, is requisite for 100 sheep. If they are to remain in the fields during winter to be foddered, each field should have sheds or barns of sufficient size for them to resort to either from cold or stormy weather. This not only ensures comfort, bnt it will require less to keep them, and save more lives through the inclement season. In a warmer latitude, this would doubtless be unnecessary, and the foddering from stacks might be practised. Hay ought not to be fed to them upon the ground, as it gets trampled upon, blows away, and is much wasted. Permanent racks, if within the barn, or movable, if without, should be used, sufficiently long that 20 sheep may feed on both sides.

Salting of sheep occasionally in winter as well as in summer, should not be forgotten.

Sheep to be chosen in Establishing a Flock.—In choosing and establishing a flock of sheep, the best of judgment should be exercised. Purity of blood in order to the evenness of quality of wool, as well as similarity of constitution, should be sought for. A good stout form, with full chest, generally ensures a good constitution. Those growing much wool upon them, are, of course, the most desirable. This does not solely apply as a gain in the profit of the wool grown, but gives greater protection to the sheep during winter, and the exposure to storms. For the object of growing wool (and for the promotion of which this article is particularly written), and getting up a large flock, I am decidedly of the opinion that no other kind compares with the Merino. Commence with the pure breed if possible, and if not, then get as near it as may be, and obtain pure bred rams to improve with.

Age suitable to be put to Breeding.—In nice breeding, ewes should never be suffered to be put to the buck until the fall after they are two years old, and bucks should be reserved to a like age except for a small number of ewes. Bucks should be kept apart from the ewes during summer, and generally, in this latitude, not allowed to go with ewes until the 15th to 25th of November. One buck if used at intervals, and not suffered to roam among the flock, may serve 60 to 100 ewes. After the *season* is over, and during said time, let him have 2 to 3 pints of oats per day, and plenty of clean hay and pure water. A little time prior to the ewes dropping their lambs, they should be particularly nourished and housed. Oil meal, mixed with ground oats, is a good feed, in light quantities. The oil meal may, however, not be intermixed much until after the lambs are brought. Before turning sheep to grass, clip the wool from and below the tail to keep them cleanly. At lambing time, the shepherd should be in constant care and attention. If there are appearances of rain, even if it be only an April shower, gather the sheep and young lambs into the barns and sheds, as a little chill, and that just before night comes, may eventually destroy both ewe and lamb.

When the lamb is about one month old, if a he one, have him castrated in the most simple manner, and apply cold water to rinse off the blood, and then a little lard. Do not take off the tails of these lambs at this time, as it will cause them to bleed too much, weaken, and possibly kill them; at about six weeks old, or sooner, let all lambs' tails be taken off, say 1 1-2 to 2 inches from the body. The best method to do this, is to place the lamb's stern against a block, with the tail lying upon it; then let the man holding the lamb move the loose skin upon his tail towards his body, and a second person cut off the tail with a 2 inch chisel and mallet at a blow. The skin will then move back again, and unite over the end of the bone.

Time and Manner of Washing.—The last of May or first of June is the best time to wash sheep. Select a convenient place not too far distant, where is clear running water. Leave the lambs at home in a barn, or close yard, during the time of washing the sheep. Those who are particularly nice, take about one to two hundred at a time to the washing place, and put them into the water, handling them carefully, and then place them back on the bank of the stream in the yard. After they commence steaming as it is termed, then put them in again for a final washing. This plan ensures very clean, white wool. Sheep should never be washed after noon, as they do not get dry. They are apt to take cold, and are very much injured by remaining wet during the following night. After washing, the sheep should be kept on clean grass lands, and not allowed to go into plowed fields, nor lie in dirty yards until shorn.

Time and Manner of Shearing—Doing up Wool.—Shearing may commence 6 to 8 days after washing, if the weather be fine. A small flock only should

be taken to the shearing barn, or instead of this, many use a clean plat of grass ground enclosed for the purpose, which, however, is not as good as a clean, smooth floor. The confining of a sheep to the top of a table, to be shorn, or even cording the legs, as many do, is severe and unnecessary, as the sheep will remain far more quiet lying upon the side or back in the hands of the shearer. Shearing should be done with moderation and great care, making short clips—taking off the wool close and smooth, but never cut the skin, and especially the teats, or any delicate part of either sex. After sheep are shorn, they should be housed at night, for two or three successive nights, and at any time for several days after, should cold, stormy weather occur.

Manner of doing up Fleeces at Shearing.—The doing up of the fleeces should be in the same manner as the folding up of a common neckerchief, and, as may be termed, inside out, then doubled end to end. Then commence folding from the ends to the centre, pressing it close, and yet avoid the stretching of the wool. This will present as good wool as grows upon the sheep, and if all is done right, it will appear handsome and desirable. Small, smooth twine (and no other substitute), should be used for tying up the fleece, to be cast once or twice about it only, each way. Remove the wool from the shearing apartment, to a clean room, or a building designed expressly for it, and let it be entirely unexposed to dust.

Separation, Classification, and Treatment.—Sheep having now been shorn, next comes the classification and separation. In the first place, take out all the bucks and put them by themselves, assigning to them such fields as have the most sure and perfect enclosures; placing special marks upon all such as have given a large and desirable fleece, or have got strong and active lambs. Next, take out all old ewes, and such as have little wool on their bellies or give light fleeces. Mark them as such, and keep them in your best feed during the season of pasture. They will sell for some purpose, the better for having had good care; but they should not be bred from. Other ages and kinds may be marked for any special purpose you choose, such as 3 years old—wethers. Put them in good keep, and urge their fattening all the season for market. Ewes and lambs should also have much care, as the first summer's growth of the lamb, if well looked to, better ensures his life the following winter, gives him more growth of wool to protect him, and his maturity will be early effected. Lambs should be separated from their dams about the 20th of August, and put farther away than an adjoining field. They will early learn to take care of themselves, if placed in good feed, and will be the better prepared to eat hay in winter. An early separation is also necessary for the ewes, that they may recruit for the winter, with plenty of flesh and wool.

J. N. H.

Bennington, Vt., Jan'y, 1845.

Blight in Pear Trees.—Mr. Samuel Reeve, of Salem, N.J., writes us, Your article on blight in pear trees claims attention, in order that a preventive or remedy may be ascertained. I have been an observer of this blight in pear trees for several years, and find that in those trees which have stood where the roots had an even temperature and moisture, the blight has not made as great destruction in the branches, as in those trees that have stood where the ground was subject to drought and sudden wet during the growing season. In addition to this from Mr. Reeve, other correspondents inform us that they think a blight is caused by intense cold.

Dr. Kirtland, in the Western Farmer and Gardener, says, that the best remedy for blight is a bold and prompt amputation below the diseased parts, taking care to perform the operation as soon as the malady is manifested, and to burn the diseased limbs without delay.

PRESERVATION OF FRUITS BY CARBONIC ACID GAS.

It is a fact with which chemists have long been acquainted, but which I believe is not generally known, that carbonic acid gas possesses the property of preserving fruits placed in it for a considerable length of time, in nearly all their original freshness and flavor. The process is most too expensive to be employed on a very large scale, and best adapted to the smaller fruits, such as cherries, gooseberries, &c. I have sent you a description of the mode of generating the gas, thinking that if you saw fit to insert it in your journal, it might prove a source of amusement to some of your young readers who are fond of such kind of experiments.

The apparatus required is very simple. A common pint glass bottle, with a cork, through which passes tightly a bent pewter tube about half an inch in diameter and 12 or 15 inches long, another wide-mouthed pint glass bottle with cork (a ground glass stopper is best), and a pail or other suitable vessel of water is all that is required. In the bottle with the tube, place 2 oz. of fragments of white marble (limestone), and pour over them sufficient muriatic acid to cover them; quickly insert the cork with the tube attached, and dip the end of the tube beneath the surface of the water in the pail. A violent effervescence will immediately take place in the bottle, and numerous small bubbles will issue from the end of the tube, and rise through the water. These are bubbles of carbonic acid gas, which may be collected by taking the other bottle and sinking it, mouth upwards, in the pail, so that the atmospheric air will escape, and water take its place. When the bottle is full of water, carefully turn it mouth downwards, and steadily lift it, with its mouth still under water, until exactly over the end of the tube, from which the bubbles are issuing. The gas will rise through the water in the bottle; while the water in the bottle sinks into that contained in the pail. When the bottle is full of gas, carefully insert the stopper, keeping the mouth still under water; when this is done, remove the bottle and place it upright on the table, then take the fruit you wish to preserve, and removing the stopper (the gas will not escape, it being heavier than air), drop it in the bottle until full or nearly so, stop tight, and place it in a cool dry place.

The process is easily conducted, and the acid may be purchased at the druggists for a trifling sum. The fruit will keep good a long time if the gas is not suffered to escape, and will preserve its freshness in an astonishing degree; and the satisfaction arising from the result, will amply repay the slight trouble and expense attending the operation.

Sing Sing, Dec. 10, 1844. J. M K

WARREN'S HORSE-POWER AND THRESHER.

Directions for Using Warren's Improved Patent Horse-Power and Threshing Machines.—The lever, *a*, for the two horse-power, Fig. 1, should not be less than 18 or 19 feet long, of tough, springy wood, well fitted and securely fastened with two iron bolts well keyed into the lever-box, *b*. For a one horse-power, the lever may be half the length of that for the two horse-power, and fastened at one end into the lever-box so as to attach the horse to the other end.

The leather band, *c*, should not usually be less than 35 feet long and 3½ inches wide—it may be longer if necessary.

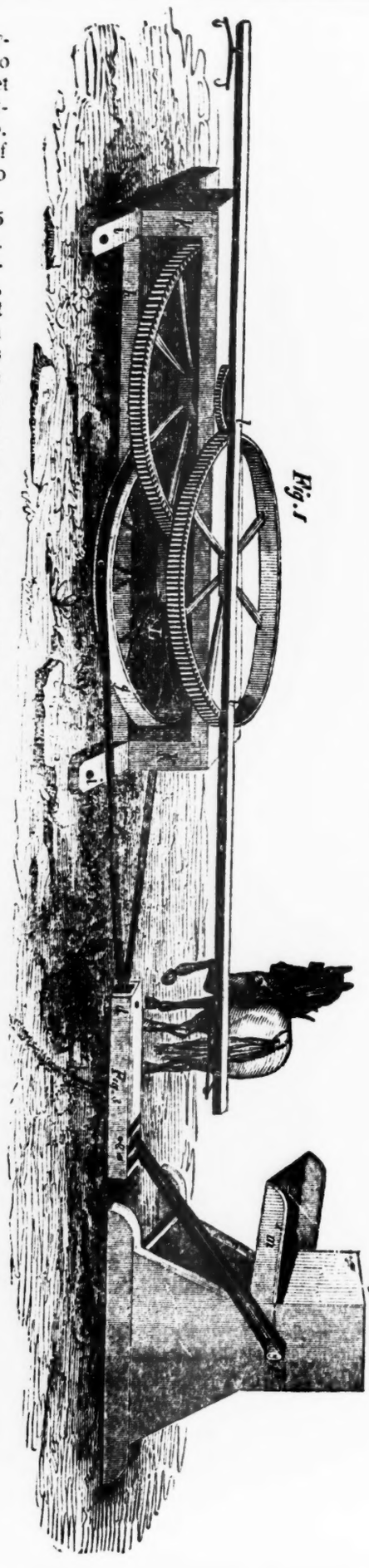
The machines may be placed as follows, viz.:—The horse-power, Fig. 1, and the pulley-box, Fig. 3, outside the barn, and the threshing machine, Fig. 2, inside any convenient distance, say about 4 feet. The pulley-box to be between the horse-power and thresher, so that the horses will pass over its centre as they walk their circle—that end of the pulley-box to be towards the horse-power which has the upright pulley, *d*, in it. The horse-power to be placed with the band-wheel, *g*, towards the thresher or barn. The left hand outer edge of the band-wheel of the horse-power (your face towards the barn), the inside of the pulley-box, and the whirl or pulley, *f*, of the thresher, should be on a straight line, so that the band will run true and not run off the whirl, *f*. This can be best done before the pulley-box and thresher are secured to their places, by passing one end of the band around the band-wheel from the left hand outer edge of said wheel into the pulley-box, so as not to touch either the box or the upright pulley, *d*, and by a half-twist through the box, and between the two horizontal pulleys, *e*, at the other end up on to the whirl, *f*, of the thresher. The other end of the band goes from the right hand edge of the band-wheel into the pulley-box next to the upright pulley, through the box, by a half-twist the same way as the other, so as to bring the flat sides of the band together, and thus prevent friction under both horizontal pulleys, *e*, (of course next to the lower pulley,) and so meets the other end of the band.

The pulley-box, Fig. 3, should be secured firm to a substantial plank or timber set in the ground secure. The horse-power, Fig. 1, should be set on two substantial pieces of timber or sleepers, which sleepers should be set in the ground firm and deep enough to bring the upper side of the bed-piece, *h*, of the horse-power on a level with the surface of the ground and on a horizontal line with the pulley-box, while the bottom cross-pieces, *i*, of the horse-power, rest firm on the sleepers. Four iron staples should be driven into these sleepers to come through the four morticed holes in the bottom cross-pieces of the horse-power; and to these the horse-power should be well keyed. Or, the horse-power may rest wholly on the ground without sleepers (if firm and level as before described) and be staked down.

It is very important to have the horse-power, Fig. 1, and pulley-box, Fig. 3, fixed firm and level as described, in their proper places—that is, these should always be on a horizontal line with each other, so that the end of the lever to which the horse is attached, will be the same distance from the ground all around, while the horse walks his circle—then it will make no difference if the ground is sloping.

Until the band is well stretched, the thresher, Fig. 2, may be secured firmly to its place by means of cleats; after the band is fully stretched, the thresher may be permanently fastened to the floor in any way preferred, by screw-bolts or otherwise. The band, of course, can be tightened by moving the thresher forward.

To prevent the possibility of the band from running up off the band-wheel, *g*, when in motion, and getting among the cogs of the other wheels, it will be well to nail a narrow board (as long or longer than the width or diameter of the



WARREN'S HORSE-POWER AND THRESHER.—FIG. 10.

Fig. 1

Fig. 2

band-wheel), to the upright end-piece, *k*, of the horse-power towards the barn, just above the band so as to extend over and beyond it on both sides, as it comes from the wheel.

If the horse is not used to working in a circle, apply him to the lever a few moments before the band is put on. It is always best to work new machines for the first time a quarter or half an hour before threshing with them.

All the gudgeons or sockets to the wheels and pulleys must be oiled frequently with sperm or sweet oil; and the cogs of a new machine especially, should also be oiled or greased. Be particular to oil the shaft, *b*, on which the band-wheel, *g*, runs.

The grain should not be put in until the machine is in full operation, and should not be held back in feeding, but pushed forward. Spread the grain in the hopper, *m*, when feeding the thresher.

In setting the horse-power in motion, the tender should, in every instance, take hold of the band and start the machine as the horse moves, until the horse will go without jerking.

It is important to use steady horses. Do not unnecessarily expose the machines to bad weather. Keep them from rusting. Be careful in frosty weather. Use them in all respects as machines ought to be used—viz.: as though they could be put out of order, if abused.

If a barn-floor is 20 feet wide by 30 feet long, the machines can be used inside the barn.

These machines are made of good materials, and delivered in good order; and if used as directed, will not break nor easily get out of order; and are warranted to easily thresh, in a clean and thorough manner, at least 30 bushels of barley or oats per hour, and other small grain in proportion.

The thresher is set, as it is delivered, to thresh dry wheat and other grain.

Be particular to set the machines firm and correct. Put the band on right. Oil all parts, and put the machines in motion according to directions. Get up the motion gradually, and keep it up; for it is the speed of the thresher which threshes, more than the closeness of the beaters to the bars of the concave. If necessary, the cylinder can be raised by putting pieces of leather under the boxes.

Let the horses walk briskly, and go their circle about 4 times a minute. Feed the thresher lightly until you become familiar with working it; do not hold on to the grain when feeding, but throw it in by handsfull, that it may pass immediately through the machine, and spread the grain in the hopper while feeding.

Be particular to use new machines carefully. It would even be better to run them without doing any work for half a day, as a machine will work much easier after being used awhile.

The lever should be straight, but if it is not, let it crook upwards rather than down, that the ends may not be too low.

This horse-power is very compact, and can be loaded easily, together with the thresher, on to a wagon or cart, and carried to any place in the neighborhood. They have been greatly improved within a few years, and are now highly approved of by all who have recently used them. They are especially well calculated for the south, inasmuch as they are the most simple in construction, and least unlikely to get out of order; they are also easily managed by the hands there.

Price of the four horse-power alone $80; two horse, $50; one horse, $40. Four horse thresher, $30; two horse, $25; one horse, $20.

We can furnish any number of recommendations of these machines from the most respectable practical farmers and planters in different parts of the country, who have them now in use.

H. Bartlett & Co., successor to
L. Bostwick & Co., 146 Front st. N. Y.

HOME-MADE GUANO.—NO. I.

There has been a great deal said and written of late about Guano, and no small amount of money expended for its importation for the benefit of farmers. The rage for procuring this expensive fertilizer recalls to mind a facetious country dealer, who relates the following, among numerous instances of the gullibility of his customers. He had a number of pails hung around his store, and a somewhat dull genius coming in, he says, "Bill, if you will kick down one of those pails, you shall have it for 5 shillings." Bill takes him at his word, and after a good deal of floundering, succeeds in bringing one down. Another and another is secured and paid for, at a somewhat less price, in consequence of the increased difficulty of the achievement. "Well, Bill," says our fun-loving merchant, "you shall now have as many as you want *without kicking* for three shillings," which was the highest asking price.

I would not be understood as underrating the highest estimated value attached to this powerful manure, but only as wishing to point out substitutes which may be had, for, perhaps, less than one fourth its cost, and without the additional trouble of *kicking*.

Guano contains nearly all the elements of vegetable nutrition, in a highly concentrated form. The dung of all birds is the most valuable of manures, from the fact that their excrements contain the urine in combination with the fæces. The evanescent ammonia, and the easily dissolved sulphates, phosphates, and other salts, are thus embodied in a form which renders their escape more difficult; and while in this combination, it possesses a high degree of fertilizing power. Guano consists of the dung of sea-fowls, which is richer than such as live on land, in consequence of their food being entirely of fish or other marine substances; and it contains, in addition, all the feathers from their annual moultings, and the immense quantities with which sea-birds almost invariably line their nests; together with the innumerable carcasses and bones of such as have perished on their hatching-grounds, and become buried in the mass.

By the analysis of Dr. Ure, guano contains, of organic matter 50 per cent., of which 8 to 17 is given off in ammonia, by slow decomposition in the soil; pure phosphate of lime 25; other phosphates and ammonia now existing in it 13; and water but 11. It will readily be seen that this estimate, which is made from the best specimens, contains great value in a small compass, and such as fully to justify its use, if to be obtained at a price sufficiently moderate.

The inquiry in England, where the principal amount of guano has been imported and consumed, seems never to have been made, whether this was the

cheapest method of procuring manure, but whether they could in any case afford to apply it. This, in consequence of the very high value of land, and all agricultural products in that country, they satisfied themselves they could do; and hence their immense importations, amounting, during the present year, it is said, to over a thousand ship loads. Had one step further been made in their investigation, they would have found that the fertilizing materials allowed to waste on their farms, or in the neighborhood, would furnish them with an equally valuable material, at a small part of the cost of "the far-fetched and dear bought" article. The value of the offal and manures wasted annually in London and other large cities and towns of England, undoubtedly far exceeds that of all the guano ever imported into that country.

Leaving out of consideration innumerable other materials, which are too generally allowed to be drained through ditches and sewers into our rivers, and thence carried hopelessly beyond our reach into the ocean, there are three great sources of supply for enriching our fields, similar in their general characteristics to guano, which, if carefully husbanded and applied, would add a constantly increasing fertility to our fields. These are bones, liquid, and household manures.

Bones, besides the oil and gelatine which they contain, which are valuable food for plants, especially the latter ingredient (containing as it does a considerable proportion of nitrogen and the salts), yield a large proportion of phosphate of lime, which is of the highest value to soils, being absorbed in considerable quantities by nearly all valuable products, as the grasses, clovers, lucerne, &c.; wheat and other grains; beans, peas, potatoes and most roots; and enters largely into milk, cheese, and other animal products. It is true that but a small portion of phosphate of lime (which is the principal part of the earth of bones) is annually abstracted from the soil, where it naturally exists; yet when fields have been depastured for a great number of years by growing animals, and especially by milch cows, without the addition of any other substances than the manure they have dropped, or the refuse vegetation which has decayed on the ground where it was produced, an immense deterioration has taken place. In Cheshire, England, where the dairy is a great object of attention, it has been found, that on pastures long used for this purpose, which had thereby become greatly impoverished, the addition of bone dust to the land had resulted in the immediate augmentation of the crops on the land, of 700 per cent.! Nor need this excite surprise, when it has been found by the strictest examination, that the milk of a single cow, will, in 75 years, exhaust the land where she has been pastured, of more than a ton of phosphate of lime, to say nothing of other substances. Land is even much more rapidly exhausted of phosphate of lime when subjected to close tillage. R. L. A.

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Prospect Hill, Ky.

Ladies' Department.

MINCE-PIE.

I see, Mr. Allen, a page you reserve
For ladies, contributing aid;
How consoling the thought to be mixed up with cows,
And of cattle form one of a head.

Well, I've thought a good deal, on authorship bent,
On what subject my hand I should try,
And decided at last that your readers I'd treat,
With a hint to make English mince-pie.

Dear pie of my country! beyond all compare;
Of tartlets and sweets you're the prince;
E'en pumpkins, the boast of New England's cuisine,
Must yield to our old English mince!

First, take three pounds of apples fine,
These mince, and pare, and core;
Of suet, fresh, and raisins, stoned,
Three pounds of each add more.
Of cinnamon, a quarter ounce,
And just as much of mace;
Eight cloves, in finest powder crushed,
With these ingredients place;
Three-fourths of an ounce of salt; three pounds
White sugar powdered fine;
To the rinds and juice of lemons two,
Add a pint of good port wine.
Of best cognac there needs a pint;
All which, placed in a pan,
With care and industry mix well,
With all the pains you can.
Have ready washed and dried, four pounds
Of currants; and candied fruit,
And in the pie your care prepares,
In good proportions put.

Thus ends my receipt for this delicate pie;
Mind, of beef and of tongue no aid call in.
And now, having finished the whole I've to say,
I wish you good-bye, Mr. Allen.

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It is not unusual in families where some striking error or defect has produced evident ill consequences, to see an opposite course pursued by the younger members. Thus sometimes a very careless and slatternly mother will have the neatest and most orderly daughter; or a coarse one, a family noted for refinement and manners. A drunken, brutal father, has sometimes struck such horror into the hearts of his family, that his sons would, by the mere force of contrast, be unusually circumspect and moral; or an undutiful elder brother will seem the living warning which keeps all the rest of the family in the most obedient and affectionate habits. It may have been on some principle similar to this, that Ellen Dickson became so different from her three elder sisters, and endeavored to make her little sister, Lizzie, very different too. Ellen had always been more disposed to go to school than the others, and instead of taking advantage of every excuse for remaining at home as she saw them do, she had attended steadily whenever she could, and by the time she was sixteen, she had obtained a tolerable knowledge of the plain branches taught in that part of the country; and, what was still better, she had imbibed a desire to know something more. We might say much on this same subject of country schools, both as regards scholars and teachers; much of the wretched practice of *deducting* from the tuition money all the days that the scholar chooses to stay away—a practice which is directly calculated to lead to irregular attendance; much of the meagre and soulless character of too large a portion of the teaching, which inspires no desire of knowledge, but a silly emulation in the lowest and most mechanical things learned. We might dilate feelingly, for we have thought much, upon the little chance there is, even for a well disposed and intelligent young person to learn anything beyond mere words, at most of our district schools. But we forbear, knowing that the subject is too important for a casual notice. We shall only say that Ellen Dickson was unusually fortunate in her opportunities, and had the sense to make good use of them. There was a library too, not very well chosen, but still, better than none at all, from which she was in the habit of drawing books. Her sisters often reproved her for being *idle* while they were at work; but she felt that reading was not idleness, and that when she had performed what was required of her, it could not be wrong to attempt to learn something. So it became her first object to ascertain what were her duties at home; no easy matter, where incessant toil was considered synonymous with virtue. This, however, by the aid of her father, she accomplished; and then, by dint of early rising and earnest industry, she had a good portion of the day at her own command.

One of the first fruits of her studies was some insight into the habits of bees; and she soon persuaded her father to substitute properly made hives for the ragged, unsightly, and unprofitable ones which had long disgraced an old shed near the barn-yard. The new hives were placed in a sheltered corner of the garden, under a shed, opening to the east for the sake of the early sun and dew, with good store of roses, white and red, sweet violets, flowery thyme, and honeysuckle, within reach; while the ample orchard afforded the fruit trees, and the door-yard the white-clover blossoms, which, after all, the humming people seem to fancy as much as rarer sweets. Near this favorite spot, under a great old apple-tree, and within sound of the pretty rill that trickled through the milk-house, would Ellen sit, book in hand, alternately watching the bees and reading, often attended by little Lizzie, who, playful as she was, could yet be persuaded, sometimes, to listen to what interested her sister.

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When it was time to gather the honey, Mr. Dickson was so well pleased with the great improvement both in quantity and quality, that he gave Ellen a handsome share of the extra profit, to be applied in any way she might prefer. This afforded her an

important addition to her little shelf of books, and another luxury which she had long coveted.

In the village to which she often went with her sisters to make the necessary purchases for spring and autumn, she had observed green-house plants for sale, and the roses and geraniums which bloomed so beautifully, while all without was so dreary, had attracted her beyond anything she had ever seen. A rose and a geranium were purchased with the remnant of the bee money, and placed in the sitting-room, where a sunny window promised well for such pets. The care of these supplied the place of the beloved bees, during the short winter days when there was little time for anything but household affairs, during the hours of daylight. In the evenings, the delightful long evenings, while Polly spun flax on the small wheel, and the other sisters were knitting stockings or sewing little diamonds and hexagons into patch-work, Ellen, who had learned *to knit and read at once*, would sometimes obtain permission to read aloud; and after she had read her father to sleep with a few paragraphs of the weekly paper, or an agricultural monthly for which she had persuaded him to subscribe, she would get one of her own favorite volumes, the Tales of a Grandfather, perhaps, or one of Mary Howitt's stories, and try to interest her sisters, while her own fingers flew almost as busily as theirs. By such means as these, a decided improvement manifested itself in the family, and Ellen had the satisfaction of seeing a taste for reading gradually growing among them. Little Lizzie was nicely dressed and sent to school in ample time every morning, instead of being suffered to lounge about at home until it was too late to go. Sarah bought Tales of American History for her own reading; and she too found that scarce a pair less of stockings need be knit in the course of the winter, while she occupied her eyes with a well printed book. Polly was almost too old to learn so easily; but even she was willing to *hear*, provided a *story* was the thing read; and in the matter of roses and geraniums, she soon came to love them, to take care of them, and to be as anxious to increase their stock as either of the other girls.

Jane, the third daughter, whom we described as being more fond of dress than the others, was less inclined to improvement than either of them. When once the passion for personal adornment has seized on a female mind, there is scarce anything more hopeless than an attempt to induce a taste for better things. She still laid out all that her father allowed her on tasteless finery, and her character was so far consistent, that she could hardly endure to hear anything read but the most romantic novels. We may easily imagine that Jane's judgment did not ripen very rapidly under such influences; and there is no saying what silly things she might have done, had not Providence ordered a blessing for the Dickson family, in one of those questionable shapes which it often chooses for our improvement.

The harvest was over, and the great barn was stored almost to bursting, when a violent thunder-storm, such as sometimes occurs late in the season, came on in the afternoon. The barn was struck by lightning and set on fire; but the large number of men who had been employed in the harvest being still on the ground, the fire was subdued, after very great exertions, before any very extensive damage had ensued. All went weary to bed, and slept so soundly that they remained totally unconscious that the house itself was burning, until they were awakened by a suffocating smoke, and found themselves in such imminent peril, that they were glad to escape with life; leaving almost everything that the house contained, to the mercy of the flames.

In the confusion of extinguishing the fire which threatened the destruction of the barn, nobody had thought of a quantity of lime which had been stored, for barn-yard purposes, close against a line of fence which communicated with the house. Being covered with a rough shed, the lime had not been visible; but the deluge of rain had reached it in sufficient quantities to produce combustion, and hence the loss of the house. Whether ignorance or carelessness produced this result, it was, or seemed, disastrous enough for the time.

Poor Polly's stores of bedding and stockings, long hoarded for a bridal which seemed yet far distant, were all scattered to the winds. The feather-beds, to make which she had assiduously *plucked live geese* year after year, were melted into an indistinguishable mass with the butter and cheese on which she and Sarah so prided themselves; and Jane's gaudy dresses blazed literally, as they had before done figuratively. Ellen's little treasures went with the rest; but her taste for such things remaining in full force, and her acquirements being those of the mind, she lost far less than the others, and she possessed, moreover, a degree of judgment and resolution which proved invaluable to the family under these circumstances.

The house was to be rebuilt, of course. The loss of a house, however comfortable, does not prostrate a thriving farmer, and Mr. Dickson was not so improvident as not to have been insured to a considerable amount. So, although the girls' handiwork was irrecoverably lost, their father's property had not suffered materially, and the taste and ingenuity of the daughters was called into action in planning the new house; or, rather in making suggestions and additions to the plan which they were wise enough to procure from a professional man. A good warm exposure for the winter sitting-room was thought of, and a small, sunny nook for the plants, communicating so easily with the great kitchen chimney that heat was readily obtained, with scarce any additional expense. A light piazza at once graced and shaded the windows of the best parlor, which was seldom used except in summer; and this room opened by a sash door, directly into the garden. These, and many other improvements, soon reconciled all to the loss of the homely old house; and the gradual refinement of the family went on more rapidly than ever, under circumstances so much more favorable. The girls lost none of their industry, but they learned to exercise it with more judgment. They became convinced that *all effort should have some determinate end;* that to go on laboring and sacrificing one's time to no valuable purpose, is just as foolish when the object is useless bedquilts and stockings, as when it is something which wears a less questionable shape. Even in their household operations, they find a reference to books highly useful; and the various records of modern improvement have shown them how much time and trouble they formerly wasted for want of the knowledge which was, even then, familiar to the better instructed.

Boys' Department.

LIME.—I perceive, in looking over the January number of the Agriculturist, that a department is assigned for the boys. Being very fond of children, I beg to be allowed from time to time to have a short talk with them in these columns.

My young friends, you have often seen and heard of *lime*. The ladies beautify their houses, and make them pure and healthy by whitewashing their walls with a wash made by slacking fresh burned lime in water. How neat a farmer's fence looks that has been lately whitewashed. Boys, if you have a fowl house, you should whitewash it often; for it makes it look well, and destroys the vermin. As soon as your fathers will permit you to go about the stables, and you have any care of them, you must not fail to whitewash all the stalls for the cattle and horses. It not only makes the stables more healthy, but looks nice. I would whitewash my piggery also, for a pig likes a clean house to lie in, as well as a horse or cow.

Well, boys, what is lime? Would you believe that pure lime is a metal? This was discovered by Sir Humphrey Davy, in England, by means of a powerful galvanic battery, which I shall explain to you one of these days. Sir Humphrey obtained the pure metal, which is of a white color. This metal has a strong attraction for oxygen gas, and when they combine, the *oxide of lime* is formed. This is the quicklime of which whitewash is made. There are a good many kinds of lime that you will read about, and I want you to recollect that the base, or principal part, is a metal. To convince you of this, it is well known that in 28 parts or pounds of quick lime, there are 20 of metal lime, and 8 of oxygen gas. The most important kinds of lime (or *salts of lime*, as they are called by chemists), for the young farmer to understand, are the carbonate of lime, and the sulphate of lime, or plaster of Paris.

The Carbonate of Lime is composed of carbonic acid and oxide of lime, and it exists in the form of common limestone. Chalk is also carbonate of lime; so is marble, and oyster and clam shells, &c. Now, to obtain the oxide of lime or quicklime for mortar, whitewash, &c., and to enrich worn out farms, they take the limestone from quarries, and burn it in lime kilns. This drives all the carbonic acid away, and leaves the oxide or quick lime. It is now called caustic lime, because of its burning properties. A man fell into a large vat, where they were making mortar of this lime; he was immediately taken out, but was so severely scalded, that most of his skin was blistered, and one eye was destroyed.

If you take some of this quick lime, and put it in a pitcher, and pour water on it, it will slack; let it stand for a while, and settle, and then pour off the transparent portion. This is *lime-water*. You must now put this in bottles and cork them, for the doctor says that it is a good remedy for a sour stomach, in case you should eat too many apples at any time—as well as a remedy for summer complaint and dyspepsia. You should know also that lime-water and linseed or olive oil mixed together make one of the best applications for a burn. Wet linen rags with it, and apply it to the burn. Don't take these rags off, but keep them wet constantly with the wash. You can use it with the feather end of a quill. But why should you cork it up in the bottles? Because the lime water has such an attraction for carbonic acid gas, that it will combine with it if it can get at it: as this gas is always floating in the air, if the water is exposed, it will unite with the lime. Pour a little out in a tumbler, and let it stand awhile. You will see a scum on the top; this is the carbonate of lime, formed in that way by attracting the carbonic acid from the air. Try another experiment. Take some clear lime water, introduce a tube in it—a quill will answer—now blow through the quill into it. You will soon perceive the water to become turbid. The white flakes are the carbonate of lime. What caused this? Why your breath. When you breathe you inhale atmospheric air, which is composed of oxygen and nitrogen; but when you exhale or expel it from the lungs, it is carbonic acid; and as the lime has a strong desire to unite with it, the carbonate is formed.

The *Sulphate of Lime*, or Plaster of Paris, is composed of sulphuric acid (oil of vitriol), and quick lime. This is of the greatest value to farmers, and is extensively used by them to enrich their lands. When it was first introduced in this country, such a prejudice existed against it that few if any farmers would use it. It was brought from Paris. Dr. Franklin, to show what it would do, sowed on a field some plaster, so as to form these words, "This was sown with plaster;" and when the grass grew, the sentence could be distinctly read, in consequence of the grass having a larger growth, and being so much better. Some would not use it, because it had no bad smell or taste! It is now used not only by sowing it on the land, but also to improve the quality of manure; for it has been found to prevent all those offensive gases from escaping from the yard and stables, which are the richest and most valuable parts of the manure.

Boys, you will hear many stories about this plaster. Some will say it does so much good that they would not do without it if they had to pay any price for it. Others will say it injures their land. If you will watch very close, you will find that very few understand the nature of this substance. It is like many other similar articles, which we will talk about hereafter. The earth must have a certain quantity of it to produce good crops. Now, if it does not exist, or only in small quantities, then if you add it on the right kind of crops (see note, page 52 of this No.) it will do much good. But if it exists already abundantly in the soil, then if you add any more, it either does no good, or burns (as farmers say) the crops. As this is somewhat expensive, I want you, my young friends, when you go on your farms, to try the experiment whether your land wants it or not, before you use it; for I am convinced many are now using this article without its being of any benefit to their farms. Your friend, PLAYMATE.

CATTLE.—If any of our young readers are entrusted with the care of cattle, let them see that they are kept clean now and well housed and fed, for February is usually the coldest month of the year. Don't let it be said of your fathers, when spring comes, that they are good farmers in the following sense. "Jake, is your master a good farmer?" "O yes, fussrate farmer—he make two crops in one year." "How is that, Jake?" "Why, he sell all de hay in de fall, and make money once—den in de spring he sell de hides of de cattle that die for want of de hay, and make money twice!"

Be kind also to the cattle, and instead of kicks and blows, and loud abuse, give them mild words, a gentle patting, good currying, and plenty of water, two or three times a day. Thus treated, the cattle will like you, and gratefully repay all this attention (if of a good breed), by growing rapidly, or doing a great deal of work. The cows, too, will supply you with plenty of milk and butter.

CHINESE GOOSE.—Fig. 11.

This bird, among geese, is what the clean-legged bantams are among fowls—the smallest, the finest, and the most light, airy, and graceful of its tribe. The Chinese goose is as blood-like and beautiful as an Arabian horse, and can as easily be known, and a bad cross detected in it. Will you believe it, boys, we have been trying to get some of these *pure* bred for the past four months, but have not yet succeeded in doing so? All that have been offered us were a cross with the Poland, African, or Guinea goose, which completely spoils it for our eye. We wish that people would have the good sense and taste to keep birds, as well as beasts, of a pure blood.

The bills and legs of the Chinese goose are of a dark color, amounting almost to a black; the wings and tail of a slate, tinged with grey; the back of the neck a dark streak; underneath, and along the breast, a pure ash predominates, growing lighter under the belly and the tail. They are hardy, lively birds, and as great layers as ducks. They usually begin to drop their eggs early in February, and will continue laying from two to four months, according as they are fed and cared for. We saw a beautiful pair of these birds at the Agricultural show, at Poughkeepsie, last fall, and would be greatly obliged to the owner of them if he would sell us a few of their offspring the coming season—we wish them for some of our junior friends.

Rabbits.—These are easily taken alive, by soaking their favorite food, parsley, in strong rum or brandy. A similar method is employed in catching small birds, with steeped seed. They, like rabbits, are so intoxicated with the spirit, that there is no difficulty in obtaining as many as you wish.

The Greatest Egg-laying Story on Record—It is frequently asserted that poultry is more plague than profit. But this, boys, like many other assertions, must be taken with proper qualifications. We contend, if you have a good breed of fowls, take proper care of them, and are near a reasonably good market, that the keeping of fowls is as profitable a business for the amount of capital invested in it, as a farmer's boy, or the women of a family, can be engaged in. To prove this we will cite one example. When we were at the pleasant farm, last September, of Messrs. H. & J. Carpenter, of Poughkeepsie, their brother, Mr. Gerard Carpenter, showed us an account of the number of eggs laid by their hens up to that time from the 1st of January. It was so exact and satisfactory, that we requested him to continue it to the end of the year, which he has very obligingly done, and now here is the result.

He commenced on the 1st of January, 1844, with 67 hens and 3 cocks. Out of this flock were sold and lost by the 1st of May, 7 hens; from that time up to the 16th September they lost 2 more. Since then we are not informed what the losses have been. It would probably be fair to set down the average stock of hens during the year at 60 head. These laid in the following months, all of which were consumed by the family or sold:

In January,	191 eggs.	In July,	838 eggs
February,	400 "	August,	740 "
March,	892 "	September	540 "
April,	1037 "	October,	113 "
May,	1086 "	November,	21 "
June,	700 "	December,—none.	
	6558 eggs.		

In addition to this number, it is supposed full 300 were used for sitting, got lost, broken, or spoiled, which are not taken into the above account. The average price that the eggs brought at Poughkeepsie was $1 per hundred, which makes their value $65 58
Chickens raised 101, at 20 cts. each, 20 20

$85 78

We suppose that this flock of hens may have consumed grain enough during the year, equivalent to 70 bushels of corn. This is allowing ½ of a gill per day throughout the year to the flock of hens, and nothing to rear the chickens; but as, during the summer, hens that have the range of a farm need no feeding, this quantity of grain is considered ample for their support.

At 50 cents per bushel for the corn, this would make the expense of their feed, $35 00, which, deducted from the value of eggs and chickens, leaves a nett profit of $50 78. It is considered that the manure of the hens, and the insects they destroy during the season, are equivalent to taking care of them.

The actual feed of the above hens was as much corn mixed with a few oats as they would eat; the grain being placed where they could always get at it. In the winter they had a little meat. They were not confined at all, and had access to lime and gravel while the ground was covered with snow. Their roosting-place was comfortably enclosed under the barn.

FOREIGN AGRICULTURAL NEWS.

By the steam ship Cambria, we are in receipt of our European journals to the 4th January.

MARKETS.—*Ashes* have slightly declined. *Cotton*, we are rejoiced to see, has advanced during December, from ⅛d. to ¼d. per lb. The market is firm, and though the amount of the present large crop was pretty shrewdly guessed at in England, it was thought in consequence of the increased consumption, and active demand for goods, that there could be no further decline the present year in this staple article. Stock on hand at Liverpool on the 1st of January, 749,580 bales against 653,900 same time last year. The consumption for the coming year in Great Britain is estimated at full 1,500,000 bales, so that there is only a six months supply in market—not a bale more than they ought to have. *Flour* continues dull. *Naval Stores* have advanced. *Provisions.*—The trade in these is continually on the increase. Beef, Pork, and Lard in good demand. The best brands of American Beef are now preferred to Irish. So much for our improved system of packing. Butter and Cheese, advanced. *Rice* in good request. *Seeds*, especially Clover and Flaxseed, quite active. *Tallow*, brisk. *Tobacco*, without change.

Money is abandant at 2 to 2½ per cent. per annum.

American Stocks.—Considerable is doing at an advance. The Illinois commissioners have returned in the Cambria, having succeeded in getting the loan filled up.

Trade has rarely ever been better, and Great Britain seems to be advancing in wealth, power, and intelligence, beyond all precedence. The commerce with China proves profitable, and in many things has more than doubled the past year.

The Weather has been intensely cold throughout Europe. The celebrated astronomer Arago, predicted an uncommonly severe winter. When the weather is unusually cold in Europe, we have generally noticed that it was mild here, and so *vice versâ*.

Cocoa-nut Fibre, for Folding Sheep, is found to last much longer than the tarred hemp netting; it is also more easily handled than the common hurdles.

Number of Domestic Animals in Austria.—We observe by the last census, just issued by the Minister of Commerce, that Austria, in 1843, possessed 2,300,000 horses, 10,400,000 cattle, 25,000,000 sheep (yielding 55,000,000 lbs. of wool), 5,800,000 swine, and 1,245,000 goats.

Cæsarean Operation.—The following circumstance occurred on the farm of Mr. H. Mason, at Comberton, Herefordshire. A neighbor's cow, near calving, in making her way through the hedge, had the misfortune to break her leg. She was immediately killed on the spot, and a fine bull calf extracted. The calf is now alive and doing well.

Strawberries in December.—There is now growing in Mr. Richards's garden, at Bridgnorth, a bunch of strawberries (Keen's seedlings). The largest measures three and a half inches in circumference, and is well colored. They have had no protection, except being covered with a hand glass since the nights have been frosty.

Oaks in Hyacinth Glasses.—If an acorn be left for some weeks suspended by a string, at about half an inch over the surface of some water contained in a hyacinth glass, it will throw down long white roots, whilst its stem will rise upwards, and become decorated with bright green and delicate leaves. When it grows over the top of a hyacinth glass, it looks a very pretty object.

A College of Chemistry is proposed for promoting this science, and its application to agriculture, arts, manufactures and medicine.

More Large Potatoes.—We gave a record of big potatoes in our last, but here is something that beats all we have yet seen. We suspect, however, that the printer meant eight and not eighteen pounds. "A kidney potato weighing eighteen pounds, was taken on the 9th ult., from the garden of Mr. John Diggles, Woodbine Cottage, Cheapside, near Burnley."

Smithfield Show of Fat Cattle.—The 47th exhibition of fat cattle took place during the first and second weeks of December. An increased attention seems to have been paid to it—the number of visitors exceed 60,000. The Queen, for the first time, was present at this show, attended by Prince Albert, and several of her foreign visitors. The royal party examined the animals and all other matters with much attention, kindly patting the fat oxen and sheep as they walked along. We wish American ladies in this respect would take example of the Queen of England. Prince Albert, and many of the most distinguished noblemen were exhibitors, although they were not quite as fortunate as the plain farmers in obtaining prizes. The first prize of £20, and silver medal to the breeder, and gold medal as the best beast in any of the classes, was awarded to Mr. Henry Brown, of Leicestershire, for a four years and six months old Durham cow.

Manufactured Goods in France.—It is said there are enough of them on hand at present in France to supply the market for three years.

Exports of Wheat and Flour from Canada to Great Britain and Ireland.—From 11th October, 1843, to 5th July last, these amounted to 145,598 bushels of wheat, and 133,256 barrels of flour. During the same period, 175,960 bushels of wheat were imported into Canada from the United States.

To Force Early Grass.—A light top-dressing of guano, in March, is said to have the effect of forcing grass unusually early in the spring.

Fat Tail Sheep.—Those which weigh dressed not over 50 to 60 lbs., have tails weighing 14 to 18 lbs.

Tussac-Grass.—At the Horticultural Society's Garden, the Tussac-grass recently received from the Falkland islands has vegetated freely in a peaty soil.

India Rubber for Paving Stables is said to be unequalled by anything ever yet tried for this purpose. It prevents the lodging of stale matters, and their consequent noxious exhalations. It requires little litter, and preserves the knees and other parts of the horse from injuries which are apt to be received in stone paved stables. By a little precaution, the ammonia which now exhales to the injury of the horse's health, may be collected and sold as a manure, from 2*l.* to 3*l.* per horse per annum. The stables at Woolwich dockyard have been paved with this material for upwards of two years, and are superior in point of cleanliness, freedom of smell, and healthiness, to what they were previous to laying down the elastic pavement.

Utility of Rooks.—A flight of locusts visited Craven, and they were so numerous as to create considerable alarm among the farmers of the district. They were soon, however, relieved from their anxiety, for the rooks flocked in from all quarters by thousands and tens of thousands, and devoured them so greedily that they were all destroyed in a very short time. It was stated in the newspapers, a year or two back, that there was such an enormous quantity of caterpillars upon Skiddaw, that they devoured all the vegetation on the mountain, and people were apprehensive they would attack the crops in the inclosed lands; but the rooks (which are fond of high ground in the summer) having discovered them, in a very short time put an end to their ravages.

Death of M. Fellenburg.—The celebrated founder of the Hofwyl Agricultural School, in Switzerland, M. Fellenburg, died on the 21st of December. He has done much good in his day, and through his school has greatly improved the science and practice of agriculture, not only in Switzerland, but in the neighboring provinces of France and Germany.

Mammoth Gooseberry.—Mr. T. Gibson, of Nottingham, grew a gooseberry, last season, weighing 35 dwts., 12 grains. It is called the "champion berry of England." The members of the Horticultural Society intend presenting Mr. G. with a piece of plate for growing such an enormous gooseberry.

To kill American Blight.—Apply spirits of tar on the trees and shrubs with a painter's brush, and take care to rub the material well into all the crevices.

Singular Agricultural Fact.—In the last week of April, Mr. H. Cayzer, of Mawgan in Pyder, sowed two fields of barley, but the dry weather which followed prevented a large portion of the seed from germinating. The seed which did germinate, however, produced a crop, which was cut and carried at the usual time; after which the rain that fell in the latter part of the summer caused the remaining seed to grow, and Mr. Cayzer has now cut the second crop for the season from the same two fields. The latter crop is a fair one, and, if there is favorable weather, will turn out a good sample.

The Heart changed Sides.—Some students, at Madrid, lately dissected a body, and found *the heart on the right side.* This reminds us of a calf lately killed by Mr. Barnes, of Buffalo, which had not only the heart, but the liver and sweetbread on the right side. It was said to be in perfect health at the time, and made good veal.

Great Destruction of Worms.—The gentlemen connected with the Bowling Green, having long been annoyed with the eruptions made by the worms, had recourse to an experiment tried a few years ago, which consisted in merely pouring a mixture of water and corrosive sublimate over the ground, which brought them to the surface; and having a number of boys picking them up, they gathered together eleven stones (151 lbs.) in an area of 45 yards by 32. It may be in the recollection of some of our readers that twenty stones (280 lbs.) were gathered from the same ground four years ago.

Potato Anniversary.—The 300th anniversary of the introduction of potatoes into Europe was lately celebrated at Munich.

Chloride of Lime for steeping Seeds.—In Germany it is considered of great efficacy. French beans steeped four hours in a solution of a quarter of an ounce of chloride in a gallon of water, were up and in rough leaf before others sown at the same time were above ground, and an equal difference was observable with other vegetables.

Destruction of the Gooseberry Caterpillar by Salt.—To destroy the green worm, as also the small orange-colored aphides, which often injure the bushes and destroy the fruit, sprinkle the plants with salt and water early in the spring, before the leaves are developed; the mixture may then be made so strong as to whiten the branches, without affecting the future crop. Should the leaves or buds be in part expanded, the brine should be greatly reduced, say one quart of salt to about eight gallons of soft water, applied over the bushes from the nose of a watering pot.—*New Farmers' Journal.*

Large Gourd.—An extraordinary large specimen of the mammoth gourd has been exhibited in York. The circumference of the gourd is five feet eight inches, and its weight 92 lbs.

Splendid Agricultural Prizes in Cuba.—The Real Junta de Femento have proposed a number of prizes, some of which are very large. One is $1,200 to each of the three first owners of plantations who shall, during the years 1845, '46 and '47, settle on their lands fifty white families, provided with necessary implements of agriculture. To each of the three first sugar planters who, within the same period, shall settle twenty-five white families in lots—one half of these settlers to plant the sugar cane, $6,000. To the individual who will cultivate within the same period, a sugar plantation producing annually 45,000 arrobas of sugar purified by concentration or in a vacuum—the cane to be cultivated exclusively by thirty white families, possessing each a certain measure of ground, $20,000. There are a number of other large prizes offered for the best machinery for purifying and boiling sugar; for the improvement of the breed of domestic animals, &c., &c. These prizes are more valuable than any we have ever before heard of.

Guano—A Description of the Island of Ichaboe.—The following account of the Island from whence guano is taken, is from the letter of a sailor. "Here I am, on the father of all dunghills! an enormous mass of birds' manure, called guano, lying 30 feet deep on the Island of Ichaboe (pronounced Itchebo). Conceive a barren, desolate, sandy coast,—but *so* sandy, *so* desolate, *so* barren! without a soul, or a bush, or a stream near where it never rains, where the dew wets you through where it is so cold one gets the horrors, where the air is so obscure that one cannot see the land till he is a mile or two off. An enormous surf beating over the shore, rocks, reefs and shoals in all directions. Conceive a barren rock of an island off this coast to be covered to the depth of about 30 feet with a beastly, smelling-bottle sort of mass, looking like bad snuff mixed with rotten kittens! Conceive 132 ships lying packed between this island and the aforesaid sand and surf: fancy 132 masters of merchantmen, with 132 crews and 132 sets of laborers, all fighting; conceive a gale of wind on the top of these—and you will then have only half an idea of the place I have at last got into."

Charcoal as Manure in a Drought.—During the severe drought in England the past summer, the Earl of Essex mixed 24 quarts of fine pulverized charcoal with 2 quarts of turnip seeds, and drilled them in a single acre. They came up quickly and grew more rapidly than the crops without charcoal. By sowing charcoal with carrot seed they did equally well. Charcoal and salt are not only direct food to plants, but powerful retainers of moisture.

Recipe for drying Pears for Dessert.—Pare the pears and leave the stalks on; cover them with water; and either boil in a brass kettle, or stew in earthenware, until they are tender; then lay them upon old dishes, and put them in a slow oven to dry; turn them frequently, that all parts may dry equally; when done put them in paper bags, and hang them in a dry place, or keep them in tin canisters or boxes. Reserve the water in which the fruit is boiled, and by constantly using this for the succeeding operation, a syrup is obtained, which gives a gloss to the fruit, as if sugar was used. I never use sugar for them.

Bathing Lambs as a Cure for the Scour.—Lambs attacked by the scour sometimes die in a few hours, and sometimes live for a month. An examination after death shows that the liver is affected, and a good deal of water is found in the intestines. Mr. Fisher says that the most effectual remedy he tried, was to dip the lambs into cold water for twelve mornings successively, and that a running stream was preferable to a pond.

Agricultural Institutions in France.—In France there are 21 model farms, and 771 agricultural associations, aided by government. The chief object of these institutions is for improving the breed of animals, for encouraging the culture of silk, wine, and other products of the soil, and for disseminating practical and useful information in topics of agriculture generally. Among the numerous experiments which have been instituted, perhaps the establishment at Alfort for crossing various breeds of sheep, will be no less interesting than useful in its results. Will not our State government follow the example of France and other countries in this very important branch of education?

Editor's Table.

To Catch Bee Millers or Moths.—Dr. Waterman, in the Cleaveland Herald, says, "I took two white dishes (I think white attracts their attention in the night), or deep plates, and placed them on the top of the hives, and filled them about half full of sweetened vinegar. The next morning I had about fifty millers caught; the second night I caught fifty more; the third night being cold, I did not get any; the fourth night being very warm, I caught about four hundred; the fifth night I got two hundred. Most of these were most likely bee-moths (*Gallcria cereana*).

Exports from the Port of New York, from January 1st to December 31st, in 1841, '42, '43, and '44, of the following articles:

	1844.	1843.	1842.	1841.
Apples.....bbls	13.453	15.016	8.361	3.957
Ashes—Pots..... "	40.532	43.041	31.778	21.453
Pearls..... "	9.706	9.584	3.879	2.972
Beef—Pickled..... "	61.648	36.048	24.195	21.207
Dried..... "	2.491	6.999	2.002	2.154
Beeswax.....cwts	6.387	7.154	4.451	2.481
Butter.....firkins	28.761	48.034	26.939	28.681
Candles—Sperm.....bxs	10.383	11.856	11.384	5.698
Tallow..... "	27.791	23.326	9.234	7.727
Cheese.....casks	11.241	8.964	5.217	4.786
Do.....boxes	77.173	62.112	20.688	23.945
Clover Seed.....tcs	3.519	1.561	4.312	3.907
Corn.....bushels	242.886	51.301	155.795	140.963
Corn Meal.....hhds	3.959	6.084	6.814	6.430
Do.....bbls	32.691	28.715	25.806	31.680
Cotton.....bales	325.460	164.354	169.214	166.315
Flax Seed.....tierces	3.924	4.131	3.066	4 129
Flour—Wheat.....bbls	347.249	274.881	325.869	311.321
Rye..... "	6.669	8.798	10.617	11.919
Hams and Bacon....cwts	9.481	8.235	5.627	4.364
Hides.....	45.615	53.633	31.286	4.245
Hops.....bales	3.093	2.842	5.276	444
Lard.....kegs	198.094	188.687	155.085	39.918
Lumber—shks, hd & pp	29.322	23.759	26.535	20.518
Brds & Plks.....M ft	5.689	4.748	4.831	3.397
Staves & Hd'g.....M	4.649	3.239	4.155	5.500
Hoops.....M	1.797	1.000	869	946
Shingles.....M	2.423	1.761	1.109	2.742
Naval Stores—Rosin..bbls	105.225	82.844	58.481	55.021
Spts Turp..... "	2.127	1.702	1.175	1.197
Tar..... "	26.040	35.347	27.465	35.613
Turpentine..... "	207.908	202.049	188.206	128.078
Pork..... "	90.772	48.962	78.947	50.836
Oil—Linseed.....galls	21.100	14.300	14.800	11.100
Whale..... "	2.368.966	2.567.916	2.445.806	2.549.788
Sperm..... "	389.332	472.563	275.227	144.682
Rice.....tcs	23.628	28.100	19.307	11.558
Rum—American.....bbls	4.235	1.767	1.573	5.075
Soap.....bxs	44.114	33.960	24.810	27.678
Tobacco—Leaf.....hhds	5.525	6.771	7.701	9 278
do. bales, &c..	8.150	12.989	12.863	8.037
Manufactured.....kegs	15.487	11.799	11.702	13.616
Wheat.....bushels	58.282	44.885	100.323	65.159
Whisky.....bbls	736	70	1.159	1.204
Wool.....bales	106	64	1.000	362

The exports of Beef, Pork, Lard and Cheese, it will be seen, have very largely increased during the last 2 years, growing out of our enlarged trade in provisions with England. The excess of Beef in 1844 compared with 1842, is 37,453 bbls., of Lard 43,009 kegs, of Cheese 62,500 packages, of Pork compared with 1843, 41,810 bbls. The exports of Flour are larger by 72,000 bbls. The increase in Clover is 1,958 tierces, in Meal 4,000 bbls., in Corn 191,500 bushels, in wheat 13,500 bushels, and in Soap 10,000 boxes. The exports of Cotton goods have fallen off this year 8,300 packages as compared with 1843, but are larger than in 1841 and '42. The shipments of Pearl Ashes have been larger than in 1843 by upwards of 7,000 bbls., but of Pots they have fallen off 2,500 bbls. This comparison by calendar years is however scarcely a fair one, as the season for many of the above articles runs over from one year to another, and some circumstances may advance or retard shipments, and thus when the shipments of the season are equal to those of the last, the calendar year may show a considerable decrease or increase.—*N. Y. Ship. List.*

Mattresses, Blankets, and Comforters.—Of the amount which might be saved to the south, and of the reduction of the stocks of cotton for exportation, by the general introduction of cotton mattresses and cotton blankets and comforters.

States.	*Population.*
Virginia,	2,240,000
North Carolina,	750,000
South Carolina,	600,000
Georgia,	690,000
Florida,	55,000
Alabama,	590,000
Mississippi,	375,000
Louisiana,	352,000
Arkansas,	100,000
Tennessee,	800,000
Total,	5,582,000
One mattress to every five persons—mattresses,	1,116,400
Each mattress weighing, say 40 lbs.,	40
lbs. of cotton thus used,	44,656,000
400 lbs. to a bale—thus using bales,	111,640
And this besides the cotton used in the bed ticking. A comforter to very 2 inhabitants containing 3 lbs. of cotton and 10 yards of domestic, weighing, say 2 lbs., would be—comforters,	2,790,000
lbs. of cotton to each comforter,	6
	13,950,000
Equal to bales thus consumed,	118,625
Bales consumed in mattresses,	111,640
	230,265

South Western Farmer.

Good Yield of Butter.—Mr. Brainerd of Western, in this county, has, this season, made from sixteen cows, 170 lbs. per cow, besides a supply for a family of six, and much of the time seven or eight persons during the whole year. This would probably have increased the quantity to between 190 to 200 lbs. This, too, without extra feed than hay and grass, except about 150 pumpkins this fall. At the prices for which the butter sold (most of it 12½ cents, and the remainder 14 cents), the average proceeds amount to $21,40. This after raising two calves, and taking into account the pork made from the dairy slops, is surely a good return for capital and labor invested. Who has done better?—*Central N. Y. Farmer.*

Cotton Feather-beds.—The Southron recommends making mattresses of cotton, which he says is preferable to anything, as it is not liable to harbor insects, to become matted, has no moths, and is good for the rheumatism. Cost of mattresses he estimates as follows:

Hair, from	$15 to $20
Wool, from	13 " 15
Feathers, from	16 " 25
Moss, from	12 " 00
Shucks, from	13 " 00
Cotton, from	6 " 8

Maine Farmer.

Iced Walks.—The use of a few quarts of fine salt will at once liquify the ice, if thrown upon it, and the stone that becomes impregnated with the saline substance, will prevent the adhering of new ice or snow during cold weather. A little salt thrown into a pump frozen by the cold, will at once melt the ice.—*Journal of Commerce.*

Why is an old Orchard like the toothache?—Because it is almost past bearing.

Large Berkshire Pigs.—Calvin Rood, Esq., of Sheffield, on the 15th November, killed a hog which weighed when dressed 510 pounds. The hog was 15 months old only. Also, at the same time, another which was only 18 months old, and which weighed at the time of the purchase, about the 15th of Nov. 1843, 137 pounds. It weighed when dressed 651 pounds. Allowing the shrinkage in dressing to equal the weight of the hog when purchased, there leaves a net gain of 651 pounds—showing an increase in weight daily of more than 1¾ pounds.—*Great Barrington Courier.*

Sugar on the Highlands.—The Baton Rouge Advocate states, that the experiment of raising sugar in the highlands of Louisiana—hitherto deemed chimerical—has been altogether successful, and that planters are now quite generally turning their attention to the subject.

The Yield of Coal in Pennsylvania the present year, amounts to 1,570,682 tons.

Imports and exports of the United States for 1844.—The imports during the fiscal year ending on the 30th of June, 1844, are valued as follows:

Free of duty, - - - - -	$24,766,082 00
Paying duty, - - - - - -	83,668,620 00
Total imports, - - -	$108,434,702 00
The exports for the same time were:	
Of domestic products, - -	100,183,497 00
Of foreign merchandize, - -	10,944,781 00
Total exports, - - -	$111,128,278 00

The Gross Revenue from customs within the year was $29,137,060 60, and the net amount paid into the Treasury was $26,183,570 94; making the cost of collection $2,953,489 60. The exports exceed the imports only $2,693,576.

Population of the United States in 1900.—Mr. Darby very fairly estimates that our population at this period will be 102,840,201! The idea of such an incredible number of people constituting this nation only 55 years hence, absolutely amazes one; and yet with the blessings of Providence we can have no doubt it may be so—and there is many a one now living who will see it!

Stable Economy: A treatise on the management of horses, in relation to Stabling, Grooming, Feeding, Watering, and Working. By John Stewart, Professor of Veterinary Medicine and Surgery in the Andersonian University of Glasgow. From the third English edition, with Notes and Additions, adapting it to American Food and Climate, by A. B. Allen. Appleton & Co., 200 Broadway, N. Y.; pp. 350, 12mo. Price $1 00. We are sensible that we may be considered somewhat presumptuous in attempting to edit, with a view of improvement, a work of the established reputation of the one at the head of this article; but the difference of climate and food between the United States and Great Britain are so great, and the habits and wants of the people are in many respects so dissimilar, that in re-publishing a certain class of works here, great changes are requisite in them. The horse has been a perfect passion with us from childhood, and more or less the object of our care, from the time we could go alone up to the present hour. A residence of nearly two years on the continent of Europe, gave us an excellent opportunity of studying the different breeds from the pure Arabian down; also of looking over the large military stable establishments there, and many eminent private ones. During a late ramble in England we paid considerable attention to horses and stable economy; and for several years here in our own country, we were directly engaged in breeding and rearing them on our own farm, and fitting them for the market. Thus it will be seen that we have had some little experience in this matter. Of the manner in which we have acquitted ourselves of our task we shall leave the public to judge. The work will soon be ready for delivery, and we intend to present each of our contemporaries with a copy. If any fail of receiving one they will be kind enough to notify us of the fact, and the manner in which another shall be sent The work is handsomely got up, with numerous embellishments. Among them will be found several that were not in the English edition. We particularly commend illustrations of the stables of William Gibbons, Esq., of New Jersey.

Ohio Cultivator.—This is a new periodical of eight pages quarto, issued semi-monthly at Columbus, Ohio, by M. B. Bateham, Esq., late editor of the New Genesee Farmer—price $1 a year. Mr. Bateham has had several years experience as an editor, and we have no doubt he will make an excellent paper of the Cultivator, and one highly worthy the patronage of the farmers of the west. His periodical is handsomely got up; and is lively, agreeable, and instructive, in its contents. He has, both publicly and privately, our best wishes for his success.

Vestiges of the Natural History of Creation: Wiley & Putnam, 161 Broadway, N. Y., pp. 291; price 75 cents. The author's name is not attached to this book, but it is supposed to be written by the celebrated author of Architecture of the Heavens. It treats of the arrangement and formation of the bodies of space; the constituent materials of the earth; era of the primary rocks; commencement of organic life, and so on to that of fishes, birds, animals and man, together with the secondary and tertiary formations; and, finally, the mental constitution of animals, and the purpose and general condition of the animated creation. It is an admirable book from beginning to end, and the best condensation of the subjects of which it treats, with all that is recent about them, that has yet been published.

Farming for Ladies.—This is a very pretty English volume, 510 pages 12mo., elegantly embellished, and treating of the Poultry-yard, Dairy, &c., &c., by the author of British Husbandry. Imported and for sale by Wiley & Putnam, 161 Broadway: price $2 25.

The Chemistry of Vegetable and Animal Physiology: by Dr. G. T. Mulder, Professor of Chemistry in the University of Utrecht. Translated from the original Dutch by P. F. H. Fromberg, first assistant in the laboratory of the Agricultural Chemistry Association of Scotland. With an Introduction by Prof. J. F. W. Johnston. First American edition, with Notes and Corrections by B. Silliman, Jr. Vol. I., Part I., No. 1. Wiley & Putnam, 12mo., pp. 78. Price 20 cts The author of this work enjoys a high reputation as a man of science, and takes up an entirely new theory on the subject of the action of organized beings. He contends that vitality is simple molecular action, analogous to certain known chemical operations, and not an imaginary power hitherto called vital force or nervous influence. We shall be better able to judge of this theory when we have read the other parts of the work. In the mean while we commend it to the consideration of the lovers of science.

Annual Meeting of the New York State Agricultural Society.—This took place at Albany the past month, and seems to have been well attended, We did not receive the Argus containing the proceedings till the 25th ult, too late to give any account of them this month, our paper being already made up save this paragraph. We ought to have received these papers several days sooner from the Secretary. Full particulars will appear in our next.

Answer to Correspondents.—T., Young Farmer, H. Carpenter, G., Alexander McDonald, H. A., and Thomas Spalding, with a box of grasses, the tallow-tree, and view of his house, are duly received. The last should have been acknowledged the past month.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JANUARY 27, 1844.

ASHES, Pots,	per 100 lbs.	$3 75	to	$4 00
Pearls,	do.	4 19	"	4 25
BALE ROPE,	lb.	6	"	9
BARK, Quercitron,	ton,	23 50	"	25 00
BEANS, White,	bush.	1 25	"	1 50
BEESWAX, Am. Yellow,	lb.	28	"	31
BOLT ROPE,	do.	12	"	13
BONES, ground,	bush.	35	"	40
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	18
Shipping,	do.	8	"	12
CANDLES, Mould, Tallow,	do.	9	"	12
Sperm,	do.	28	"	38
Stearine,	do.	20	"	25
CHEESE,	do.	4	"	8
COAL, Anthracite,	2000 lbs.	5 00	"	6 00
CORDAGE, American,	lb.	11	"	12
COTTON,	do.	4	"	9
COTTON BAGGING, Amer. hemp,	yard,	16	"	18
American Flax,	do.	16	"	17
FEATHERS,	lb.	27	"	31
FLAX, American,	do.	7	"	8
FLOUR, Northern and Western,	bbl.	4 50	"	4 88
Fancy,	do.	5 00	"	5 50
Southern,	do.	4 50	"	4 88
Richmond City Mills,	do.	5 50	"	5 75
Rye,	do.	3 25	"	3 50
GRAIN—Wheat, Western,	bush.	95	"	1 05
Southern,	do.	95	"	1 00
Rye,	do.	65	"	68
Corn, Northern,	do.	46	"	48
Southern,	do.	44	"	46
Barley,	do.	60	"	62
Oats, Northern,	do.	31	"	33
Southern,	do.	27	"	29
GUANO,	cwt.	3 00	"	3 50
HAY,	100 lbs.	50	"	60
HIDES, Dry Southern,	lb.	9	"	11
HEMP, Russia, clean,	ton,	185 00	"	190 00
American, water-rotted,	do.	105 00	"	165 00
American, dew-rotted,	do.	75 00	"	125 00
HOPS,	lb.	13	"	15
HORNS,	100.	2 00	"	8 00
LEAD,	lb.	3½	"	4
Sheet and bar,	do.	4	"	4½
MEAL, Corn,	bbl.	2 44	"	2 75
Corn,	hhd.	11 75	"	12 00
MOLASSES, New Orleans,	gal.	21	"	24
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	1 69	"	1 75
Pitch,	do.	88	"	1 00
Rosin,	do.	55	"	65
Turpentine,	do.	2 50	"	3 00
Spirits Turpentine, Southern,	gal.	37	"	39
OIL, Linseed, American,	do.	68	"	70
Castor,	do.	60	"	65
Lard,	do.	55	"	65
OIL CAKE,	100 lbs.	1 00	"	—
PEAS, Field,	bush.	1 25	"	1 50
PLASTER OF PARIS,	ton,	2 62	"	2 75
Ground, in bbls.,	of 350 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	6 00	"	8 00
Prime,	do.	4 50	"	5 50
Smoked,	lb.	5	"	7
Rounds, in pickle,	do.	3	"	5
Pork, Mess,	bbl.	8 25	"	10 00
Prime,	do.	6 50	"	8 12
Lard,	lb.	6	"	7
Bacon sides, Smoked,	do.	3½	"	4½
In pickle,	do.	3	"	4
Hams, Smoked,	do.	5	"	10
Pickled,	do.	4	"	7
Shoulders, Smoked,	do.	4	"	6
Pickled,	do.	3	"	4
RICE,	100 lbs.	2 88	"	3 38
SALT,	sack,	1 32	"	1 40
Common,	bush.	23	"	30
SEEDS—Clover,	lb.	6½	"	8½
Timothy,	7 bush.	10 00	"	12 00
Flax, rough,	do.	12 00	"	12 50
clean,	do.	13 00	"	13 50
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	3½
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	3½	"	6
SUMAC, American,	ton,	25 00	"	27 50
TALLOW,	lb.	6½	"	8
TOBACCO	do.	2½	"	6
WHISKEY, American,	gal.	22	"	24
WOOL, Saxony,	lb.	45	"	60
Merino,	do.	35	"	45
Half-blood,	do.	30	"	35
Common,	do.	25	"	30

NEW YORK CATTLE MARKET—Jan. 27

At Market 1100 Beef Cattle, 250 from the South, 140 Cows and Calves, and 800 Sheep.

BEEF CATTLE—We quote best retailing at $5 *a* 6,50, with a few extra at 7c.; market dull, and 300 unsold.

COWS AND CALVES—All sold at $14 *a* 28.

SHEEP—Market was cleared at $1,75 *a* 5,50 as in quality.

HAY—Good supply at 56 *a* 57½c. per cwt. for loose.

REMARKS.—*Ashes* are steady. *Cotton* has advanced from ¼ to ½ a cent per lb., the past month, and there seems great confidence on the part of the merchants that it will stand at the present rates. Exports from the United States since 1st September last, 558,506 bales; same time last year, 307,918; same time, year before, 600,696. *Flour*, a fair demand. *Grain* the same. *Provisions* of all kinds are more firm, the late European news has had a good effect on the market. *Swine*, the killing season is now pretty much over, and the number thus far slaughtered in Cincinnati, reaches only 170,000 head, which is 30,000 less than last year. In the valley of the Sciota, the number has decreased 73,000; on the upper Mississippi, 86,000. Added to all this, the hogs are of lighter weight this season than usual. Thus it will be seen, that there is good reason for the late advance in pork. *Corn* in Arkansas, and some other parts of the West, continues very high and scarce. *Sugar* brisk. *Wool*, considerable inquiry.

Money is less abundant, and commands 6 to 7 per cent. Specie continues to go out of the country. With the lessening of imports and increase of exports, this will doubtless soon stop.

Stocks are in good demand.

Real Estate has recently sold in large parcels at advanced rates.

The Weather thus far has been mild beyond our memory. Scarce 3 days this winter that the thermometer has sunk below the freezing point at 3 o'clock P. M. Several days it has risen as high as 50 to 60. January thus far has been complete March weather.

BOOK OF THE FARM.

This very valuable work just imported, is a SYSTEMATIC WORK on PRACTICAL AGRICULTURE, detailing the Labors of the Farmer, Farm-Steward, Ploughman, Shepherd, Hedger, Cattle-Man, Field-Worker, and Dairymaid. By HENRY STEPHENS, F.R.S.E. In Three large Volumes Royal Octavo. Illustrated with Portraits of Animals painted from the Life, beautifully Engraved on Steel by T. LANDSEER; and upwards of 600 Woodcuts and Plates of Agricultural Implements, so particularized as to enable Country Mechanics to construct them from the Descriptions.—Price, $27.

"The best practical book I have ever met with."—*Professor Johnston of Durham.*

"The vast mass of facts are no less valuable than the lucid way they are detailed; so that without overwhelming those asking for information, everything is given that can be wanted to be known on the subject. The knowledge displayed is extremely various, and proves the author as well read on the subjects as he is practically informed."—*Monthly Magazine.*

Imported, and for sale by

WILEY & PUTNAM, 161 Broadway.

PERUVIAN GUANO.

The undersigned has received by the George and Henry, direct from the Chincha Islands, on the coast of Peru, a cargo of this valuable manure. It was shipped by and for account of the Peruvian Guano Company, and is warranted pure, and of the best quality. Price

Under one ton, 3 cents per lb.
One to five tons, $60 per ton of 2240 lbs.
Five to ten tons. $55 do. do.
Over ten tons, $50 do do.

For sale in bags, in small quantities, at Thompson's stores, Brooklyn, or in larger parcels by

EDWIN BARTLETT, 42 South street.

FARM FOR SALE.

For Sale, a Farm containing 150 acres, adjoining the village of Comac, Smithtown, Long Island; 90 acres under a good state of cultivation. the balance in Wood. The buildings consist of a good Dwelling and Barn, and all other necessary outhouses.—Conveyances to the City daily by the Long Island Railroad. There are 3 orchards of young and thrifty Fruit Trees, such as Apples, Pears, Peaches, Plums, and Cherries, all inoculated or grafted, and of choice kinds. Also a sufficiency of smaller Fruits. The Harbor of North Port is 5 miles distant from the Farm, where Packets sail almost daily.

Price, $5000, two-thirds can remain on Bond and Mortgage.—

DURHAM BULLS & SOUTH DOWN BUCKS.

A few of the above animals will be exchanged with any one desirous of obtaining them, for well-bred milch cows. They were raised on the Hudson river, and are choice animals.

Apply, post-paid, to the Editor of this paper.

NEW AND IMPROVED POUDRETTE

Made by the Lodi Manufacturing Co., may be had at the office of the Company, No. 43 Liberty Street, New York, or at their Factory on the Hackensack River, in New Jersey, or by letter, *post paid*, addressed to "*President of the Lodi Manufacturing Co., New York*," or from the several agents who advertise it for sale, in the country.

Terms. *Cash on Delivery.*—For one Barrel, $2: 2 do., $3.50; 3 do., $5; 4 do., and up to 6, at $1.67 each; 7 do., $1.50, is $10.50; and $1.50 per Barrel for any greater quantity—delivered at any wharf or place in the City of New York, free of expense.

The Company have now on hand several thousand barrels of their new and improved article, composed of night soil, compounded with various other substances, every one of which is a good manure by itself.

The Poudrette made by this Company, is different from that made by any other concern in Europe or America. It contains no raw-peat, turf, or meadow mud, or any other inert substance; it is not like the old fashioned Poudrette, which will generally only last for a single crop, but its effects will last for years. It has been tried extensively for the last 2 years on Long Island, in Connecticut, New Jersey and elsewhere, and has answered to such a degree, that already a very large increased demand for the next season has been manifested.

If used according to *directions*, it will be found *according to experiments* which have been made, to possess the following properties:—

1st. It is quicker in its operation upon vegetable matter than any *other Poudrette* or other Manure. It has ripened corn for table use in 60 days, and will ripen other crops several weeks sooner.

2d. It is more fertilizing; and its fructifying Powers are greater as proved by the increased yield; its effects are lasting, and by its powers of attraction, it absorbs from the atmosphere, humidity, ammonia, carbonic acid, and nitrogen, and retains their fertilizing properties, giving them out only as vegetation requires them for nutrition, thereby, obviating the effects of a long drought.

3d. It will be found to be the richest, cheapest, and best manure now in use. *It saves in labor, its whole cost* in comparison with the labor attending barnyard manure.

4th. Potatoes manured with Poudrette, are not subject to Rot, or other disease, as when manured with barnyard manure.

f1 3t.

FARMS FOR SALE.

The Farm in West Groton, known as 60 acres in the North East corner of Lot No. 63 Locke, consisting of a Farm House nearly new, Barn, and about Forty acres of improvement surrounded by a good fence, and now occupied by Robert Armstrong. Price, $1,500. One Thousand Dollars can remain on Mortgage for Ten years, at legal interest, half yearly.

ALSO,

The Farm known as the State 100 acres in the South East corner of Lot No. 2, Cicero, about a mile from the town of Brewerton, on the outlet of Oneida Lake, consisting of an improvement of 40 acres fenced, with log buildings, and 60 acres of Woodlands.

ALSO,

The Farm known as the State 100 acres in the South East corner of Lot No. 54 Hannibal, a short distance from the town of Fulton, on the Oswego River, good woodland, with a small clearing.

ALSO,

The Wood Lot known as the State 100 acres in the South East corner of Lot No. 5 Manlius, a few miles from Syracuse, and in a good neighborhood.

ALSO,

Wood lot known as the S. 100 acrs.					in the	S. E. c.	of	Lot No. 7	Solon.
"	"	"	"	"	"	"	"	19	"
"	" Survey	50	acres	"	"	"	"	25	"
"	" "	50	"	"	"	"	"	29	"
"	" "	50	"	"	N. W.	"	"	36	"
"	" "	50	"	"	N. E.	"	"	39	"
"	" "	50	"	"	S. E.	"	"	58	"
"	" Sub. 1	83	"	"		"	of lot	76	"
"	" " 7	30	"	"		"	"	"	"
"	" Survey	50	"	"	N. W.	cor. of	"	98	"
"	" State	100	"	"	"	"	of L. No.	65	Virgil
"	" Survey	50	"	"	N. E.	"	"	68	"
"	" "	50	"	"	N. W.	"	"	69	"

Apply to JAS. L. BRINCKERHOFF,
f1 6t No. 32 Knight Street, city of N. Y.

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Mr. Alonzo Sherman, of Trumbull, Fairfield County, Connecticut, is hereby appointed General Agent of the American Agriculturist, with authority to appoint Sub-Agents in any part of the United States; and we hereby recommend him to the attention of our friends wherever he may go, and hope they will extend such aid and assistance to him, as will forward the object in which he is engaged.

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The subscriber has much pleasure in stating, that he can execute orders for canes of the above highly valuable and much esteemed Raspberry, unequalled for the extraordinary size of its fruit, and richness of flavor. In England it is considered superior to all other varieties, and at various horticultural exhibitions, has carried off the prizes. Dr. Lindley's opinion of it is thus expressed:—"We find it merits all that has been stated in favor of its excellence. The fruit is very large, obtusely conical, and of rich flavor. The plants bear abundantly, and in long succession."

It is scarcely necessary to recommend it more fully, or with greater confidence to the notice of the public. It continues in high perfection throughout the autumnal months, and requires no other treatment than that ordinarily bestowed on the older varieties.

Fine canes are ready for delivery, and can be sent with safety to any part of the United States, upon the following terms:

Packages containing 25 canes, - - - - -	$3 00
Do do 12 do, - - - - -	5 00
Single canes, - - - - - - - - - -	50

These plants are *warranted the true Fastolff Raspberry;* and as the stock is limited, early orders only can secure a few plants.

Orders addressed to the undersigned will receive attention—and from unknown applicants, a remittance, or satisfactory reference is requested. M. J. HOWARD.

Horticultural Gardens, Flushing, L. I.

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Plows, Cultivators, Harrows, Rollers, Corn-Shellers, Corn and Cob-Grinders, Threshing-Machines, Grain-Reapers Horse-Power, and all other agricultural implements.

Seeds and Merchandize of every kind.

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From his long experience as a farmer and stock-breeder, and general acquaintance with business, the subscriber trusts that he shall be able to give satisfaction. The commission charged for his services in purchasing or selling, will be moderate. Cash or produce must invariably be in hand before orders can be executed. A. B. ALLEN, 205 Broadway, New York.

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